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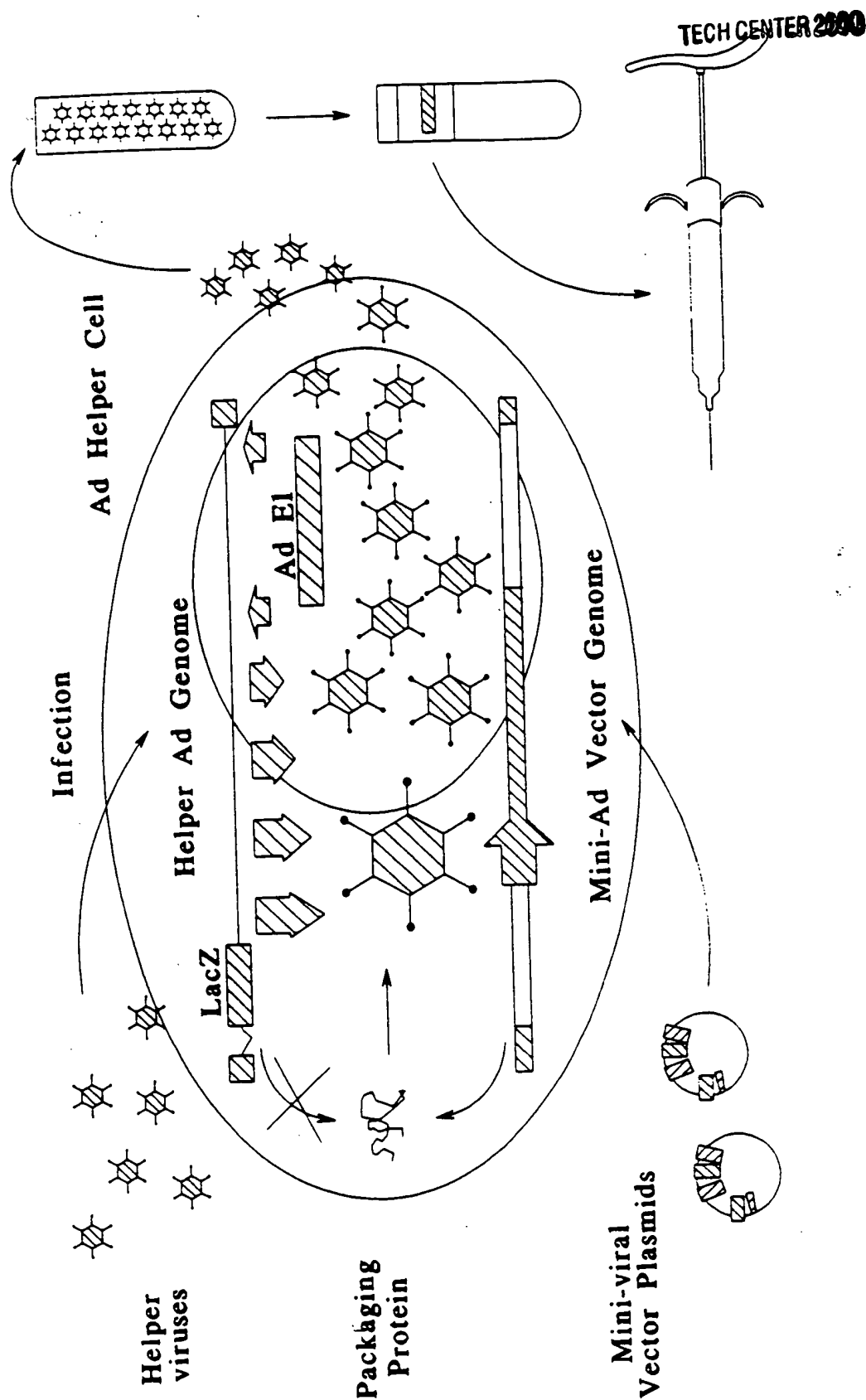
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FIGURE 1





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FIGURE 2

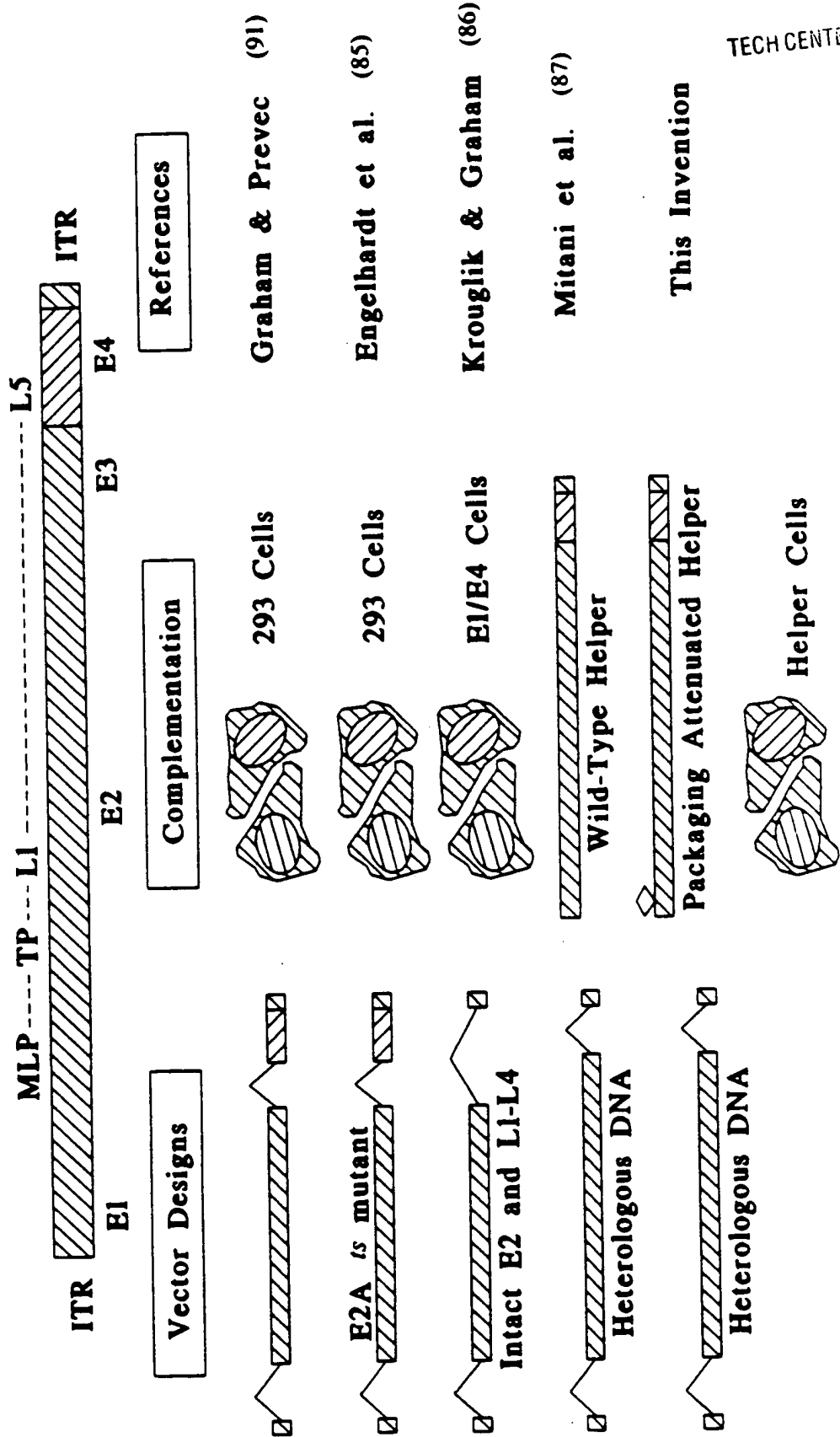




FIGURE 3

FIG. 3A

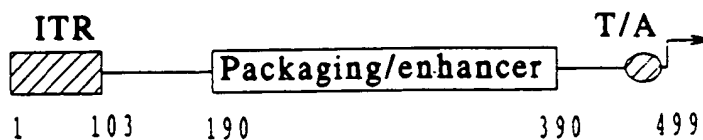


FIG. 3B

E1A Core E2F E1A Core
GTGTACACAG GAAGTGACAA TTTTCGCGCG GTTTTAGGCG GATGTTGTAG
CACATGTGTC CTTCACTGTT AAAAGCGCGC CAAAATCCGC CTACAACATC
200 210 220 230 240
A I A II E2F
TAAATTTGGG CGTAACCGAG TAAGATTTGG CCATTTTCGC GGGAAAAC TG
ATTTAAACCC GCATTGGCTC ATTCTAAACC GGTAAGCG CCCTTTTGAC
250 260 270 280 290
E1A Core A III A IV
AATAAGAGGA AGTGAAATCT GAATAATTTT GTGTTACTCA TAGCGCGTAA
TTATTCTCCT TCACTTTAGA CTTATTAAAA CACAATGAGT ATCGCGCATT
300 310 320 330 340
A V A VI A VII
TATTTGTCTA GGGCCGCGGG GACTTTGACC GTTTACGTGG AGACTCGAAA
ATAAACAGAT CCCGGCGCCC CTGAACTGG CAAATGCACC TCTGAGCGGG
350 360 370 380 390

FIG. 3C

A repeat I 5'-GTAATTTG-3'
A repeat II GTAAGAATTTG
A repeat III GTCAAATCTG
A repeat IV ATAATTTTG
A repeat V GTAATATTTG
A repeat VI GGGACTTTG
A repeat VII GACCGTTTA

CONSENSUS: 5'-GT-N₃₋₄ TTTG-3'



Inventors: Zhang et al.
Title: Mini-Ad Vector for Immunization
Application No.: 09/837079

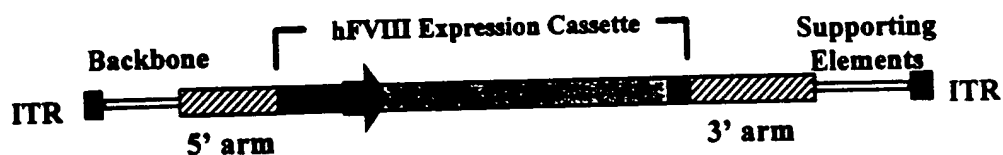
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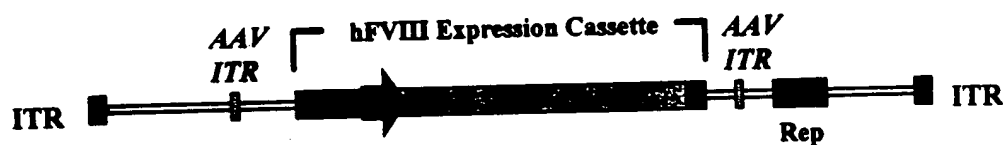
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FIGURE 3D

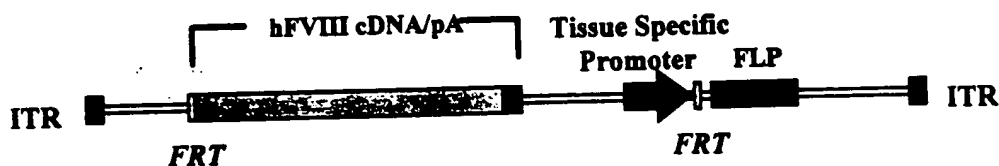
Product Design for MiniAdFVIII



Version 1: Genomic Sequence Device



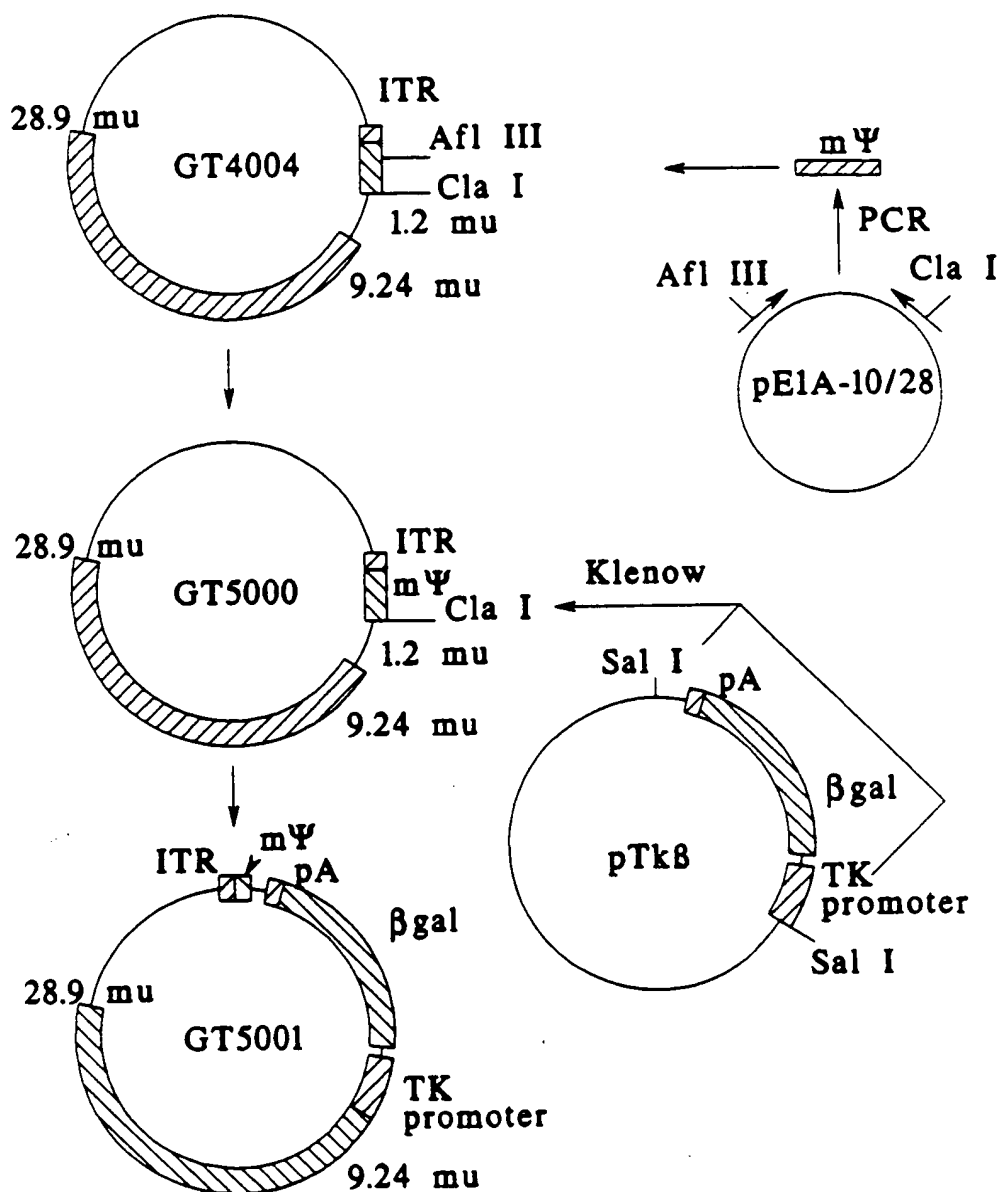
Version 2: AAV/ITR Integration Device



Version 3: Episomal Device



FIGURE 4





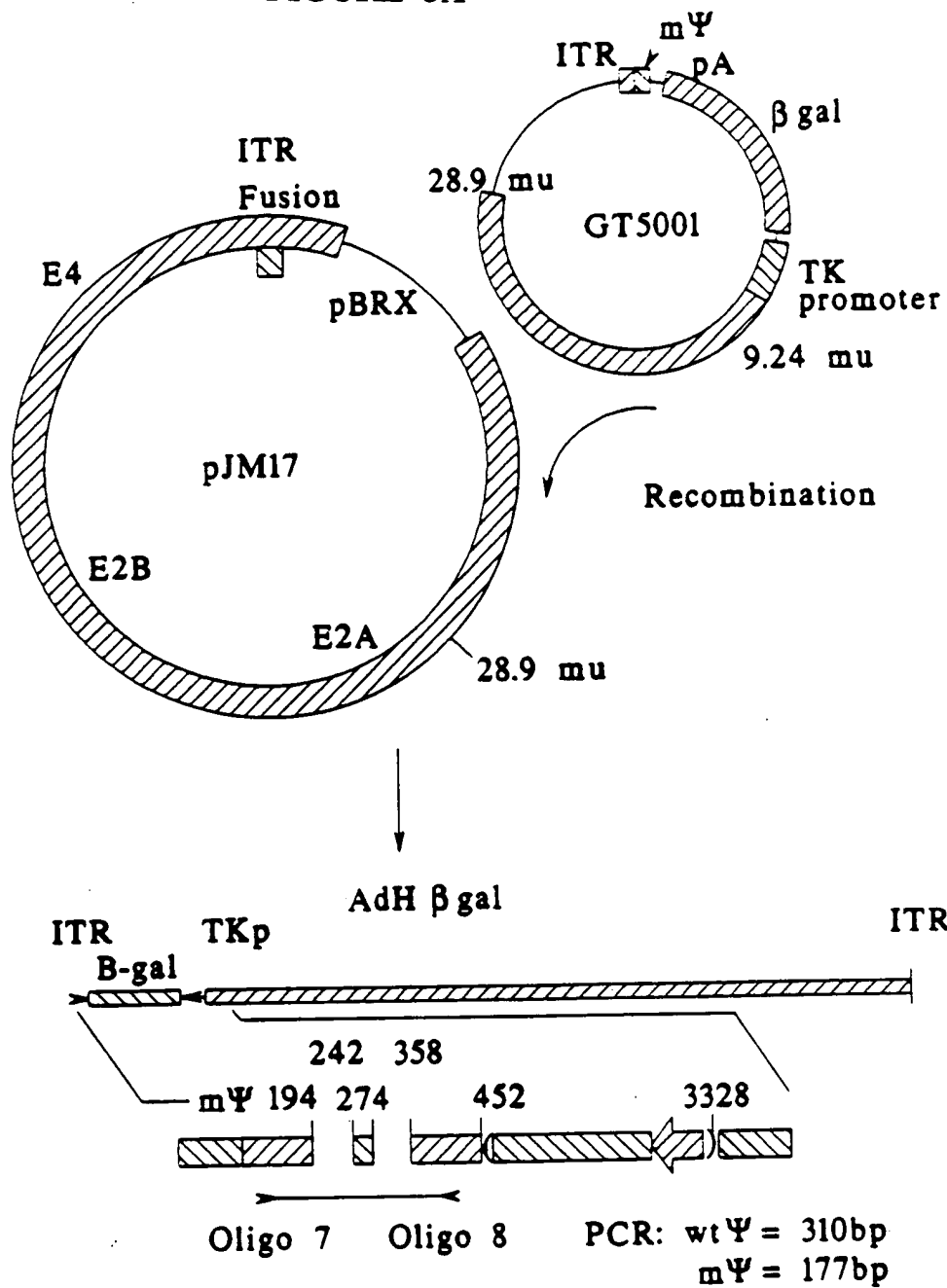
Inventors: Zhang et al.
Title: Mini-Ad Vector for Immunization
Application No.: 09/837079

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FIGURE 5A





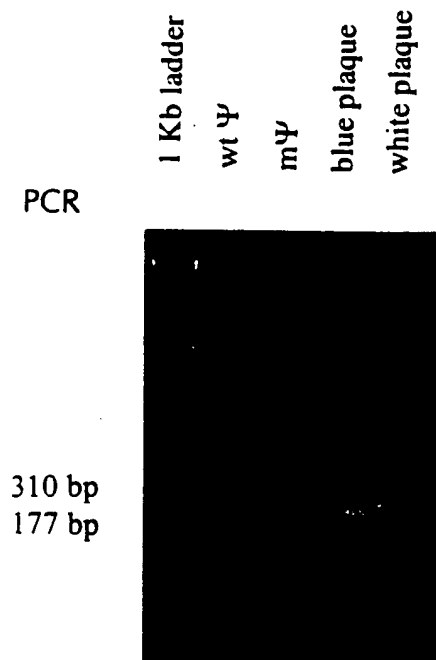
Inventors: Zhang et al.
Title: Mini-Ad Vector for Immunization
Application No.: 09/837079

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FIGURE 5B





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FIGURE 6

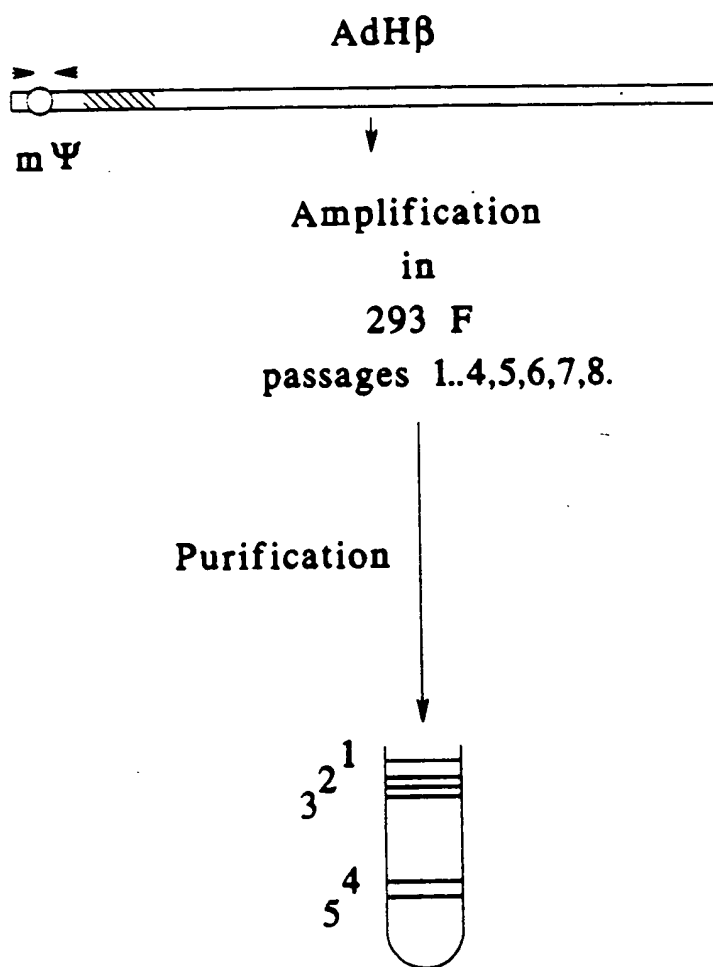
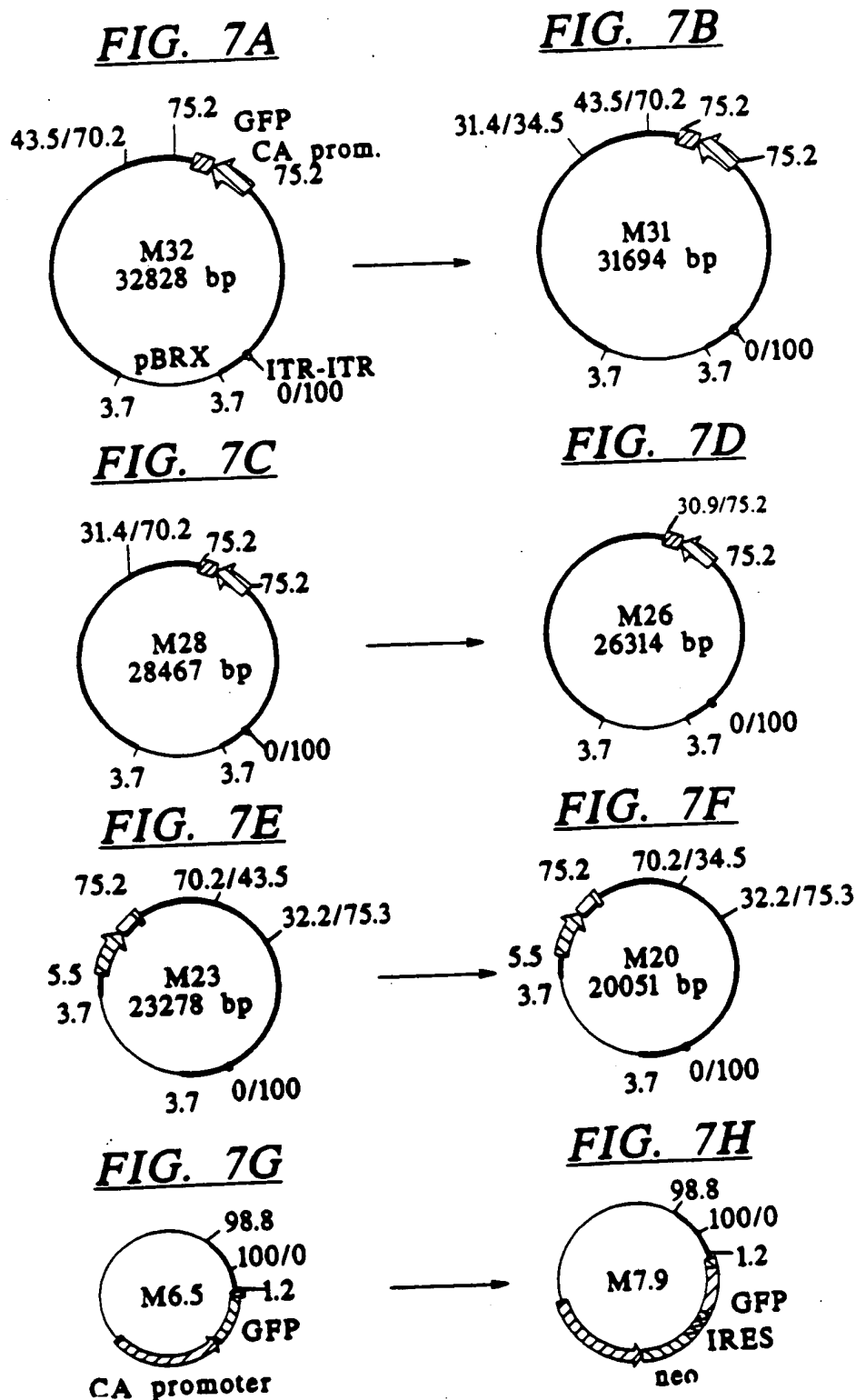




FIGURE 7

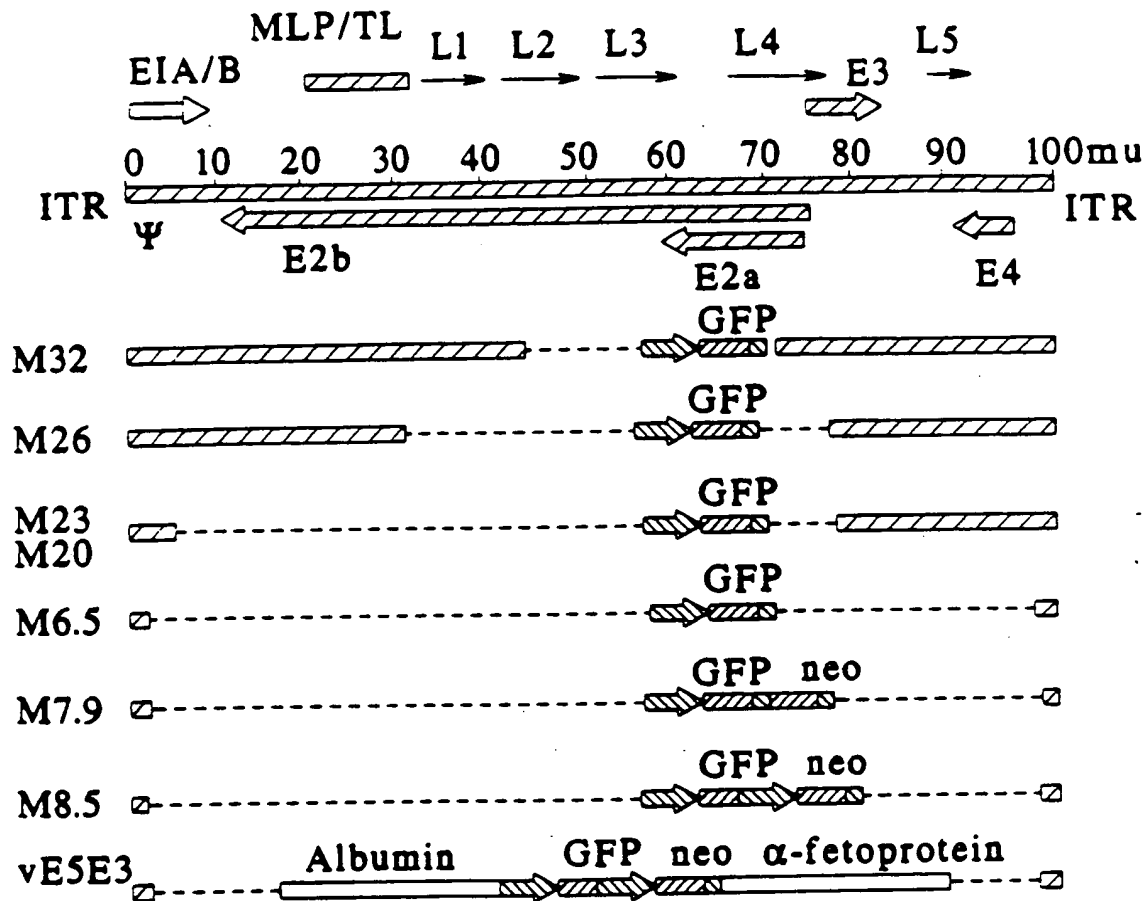




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Title: Mini-Ad Vector for Immunization
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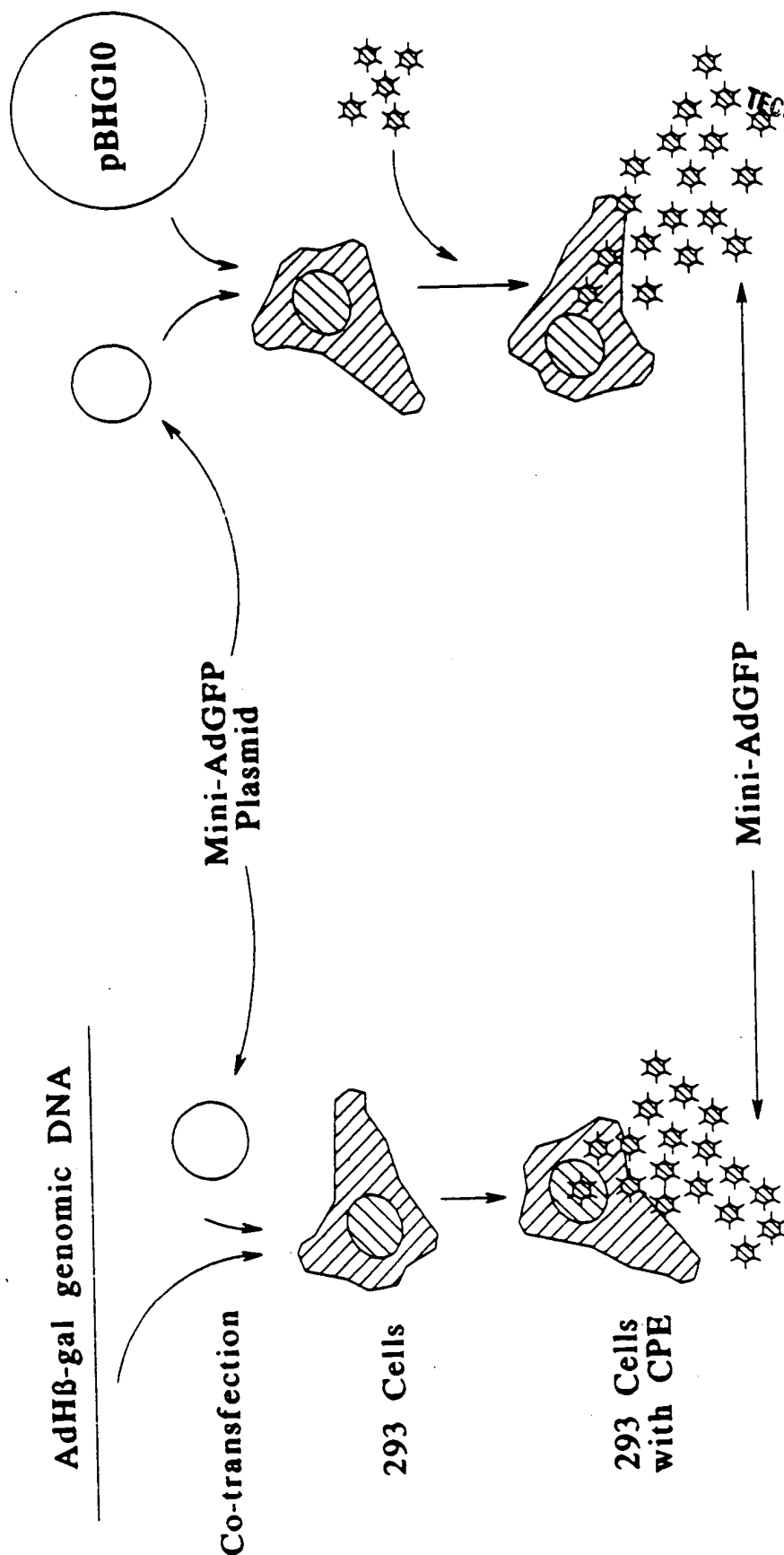
FIGURE 8





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FIGURE 9





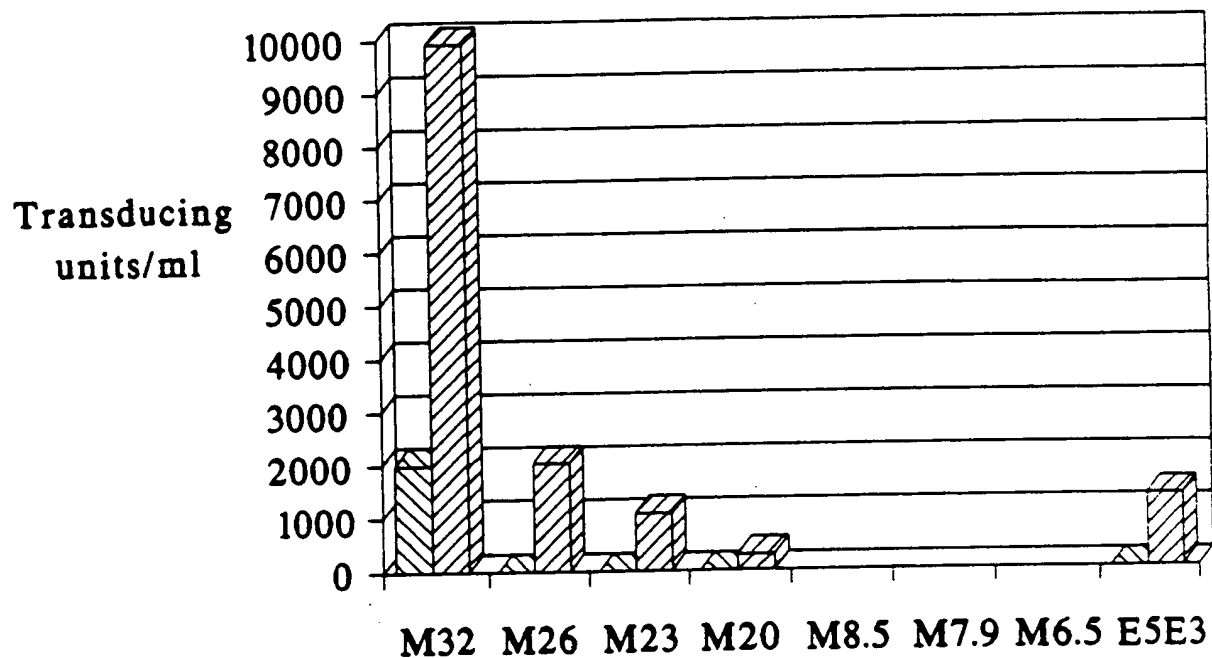
Inventors: Zhang et al.
Title: Mini-Ad Vector for Immunization
Application No.: 09/837079

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FIGURE 10

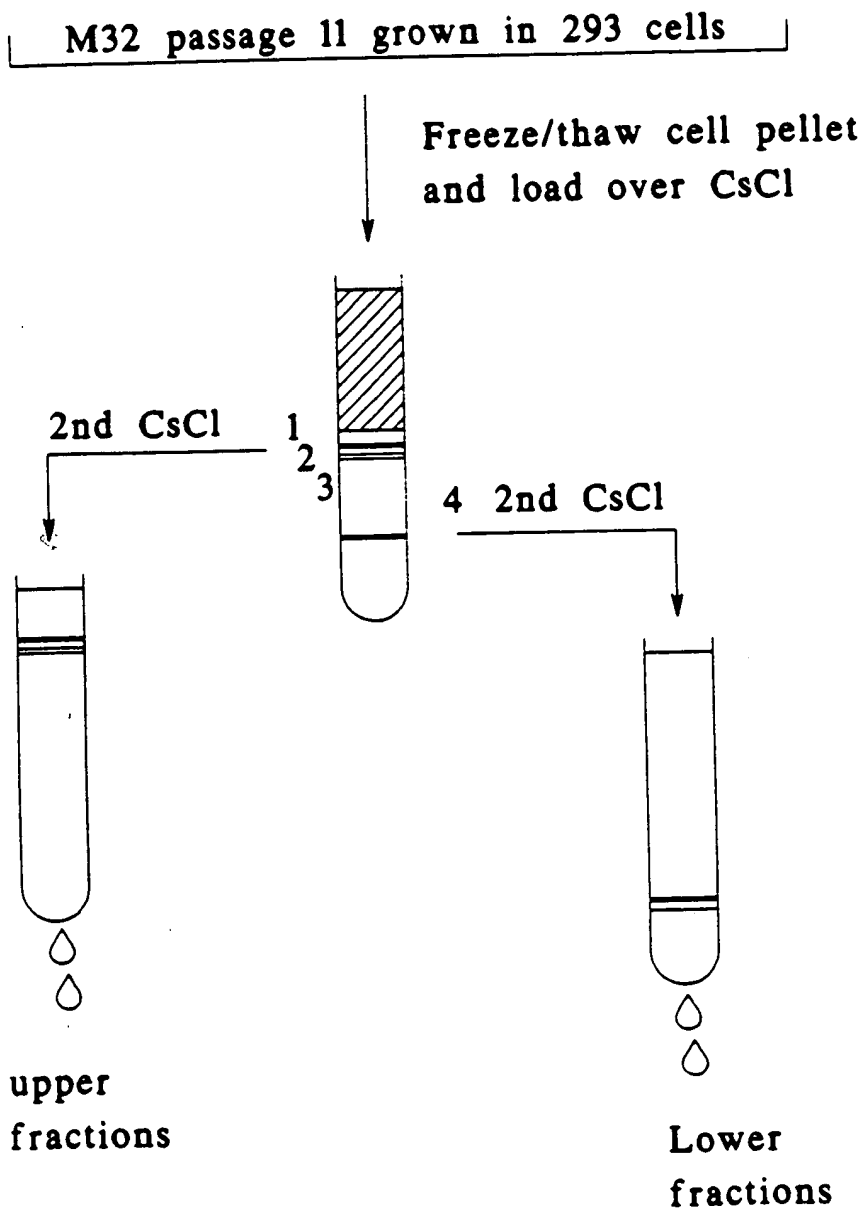




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Title: Mini-Ad Vector for Immunization
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FIGURE 11





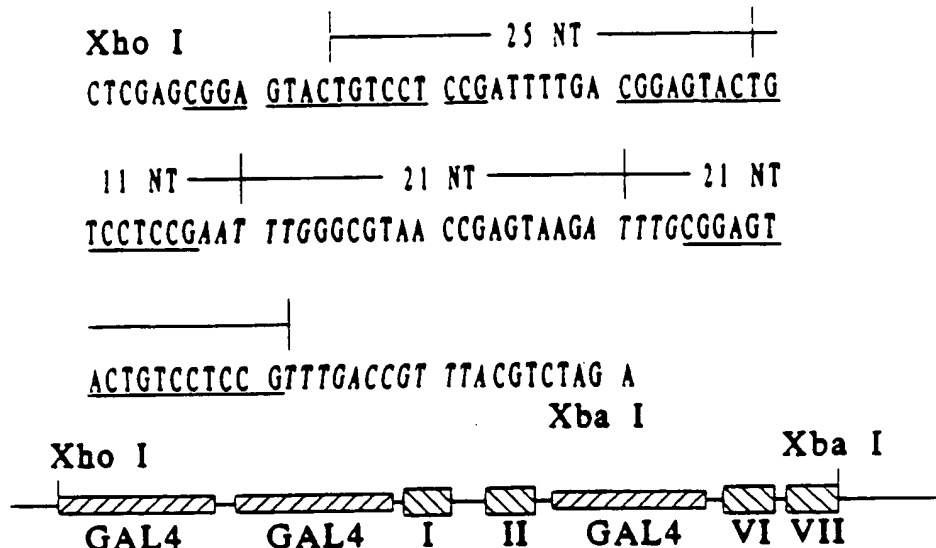
Inventors: Zhang et al.
 Title: Mini-Ad Vector for Immunization
 Application No.: 09/837079

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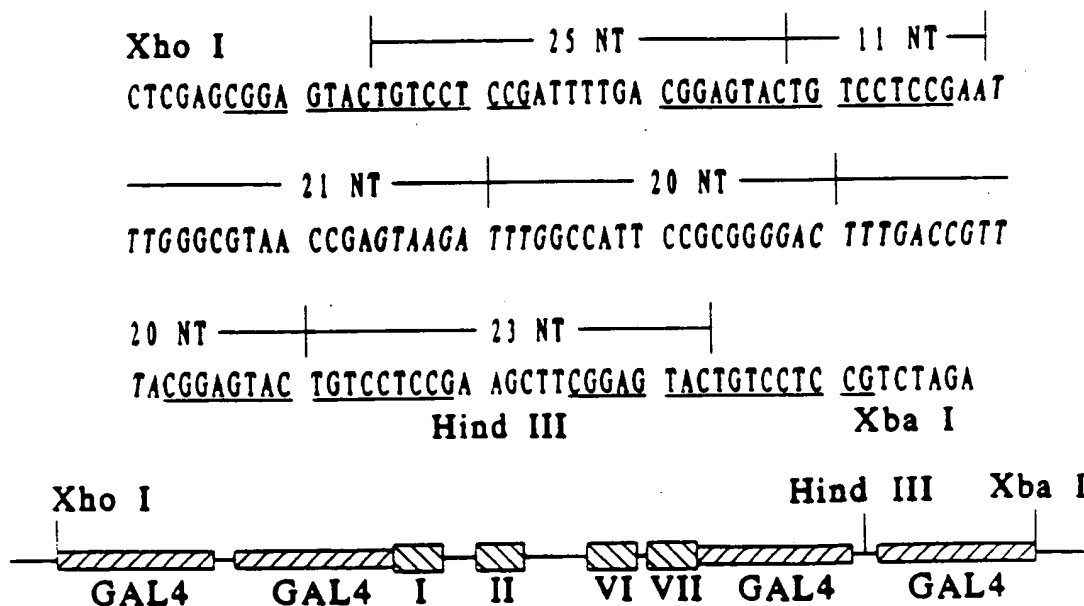
FIGURE 12

Ad5 Pac Modification with GAL4 Binding Sites

Design #1



Design #2





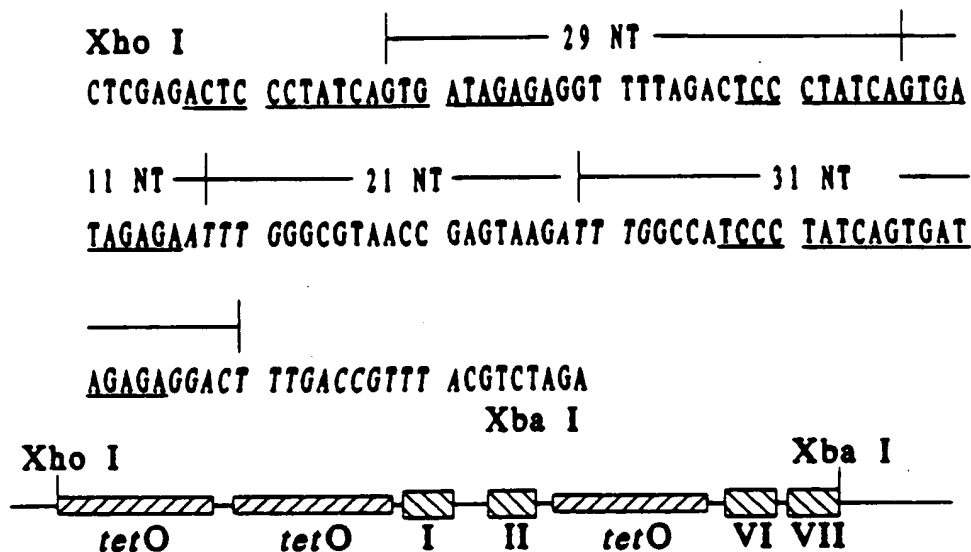
Inventors: Zhang et al.
Title: Mini-Ad Vector for Immunization
Application No.: 09/837079

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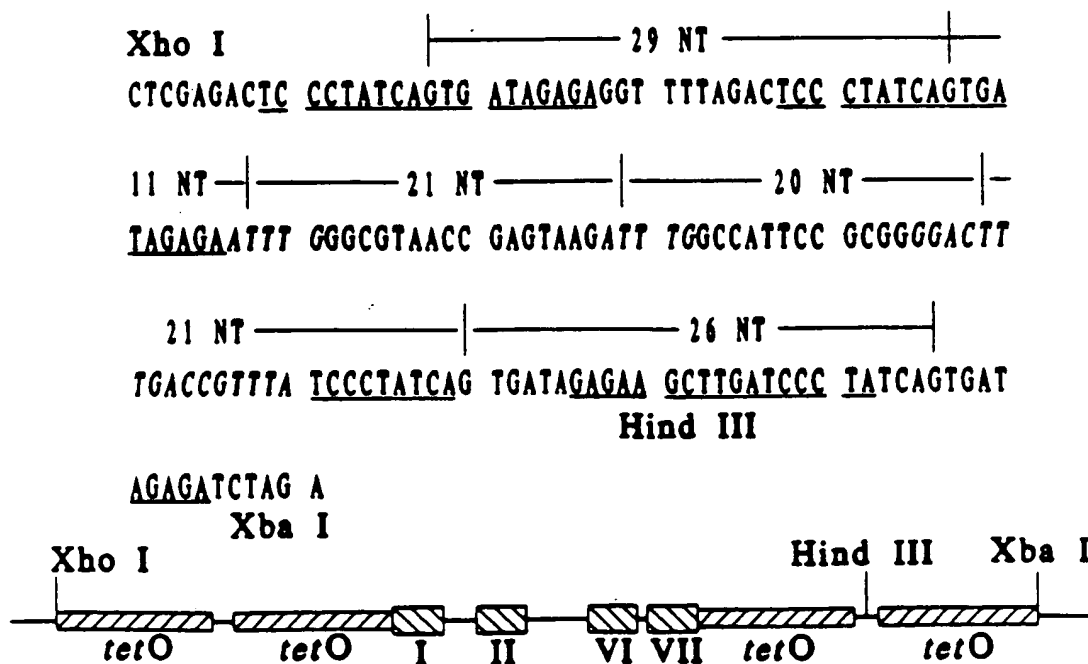
FIGURE 13

Ad5 Pac Modification with *tetO* Binding Sites

Design #1



Design #2





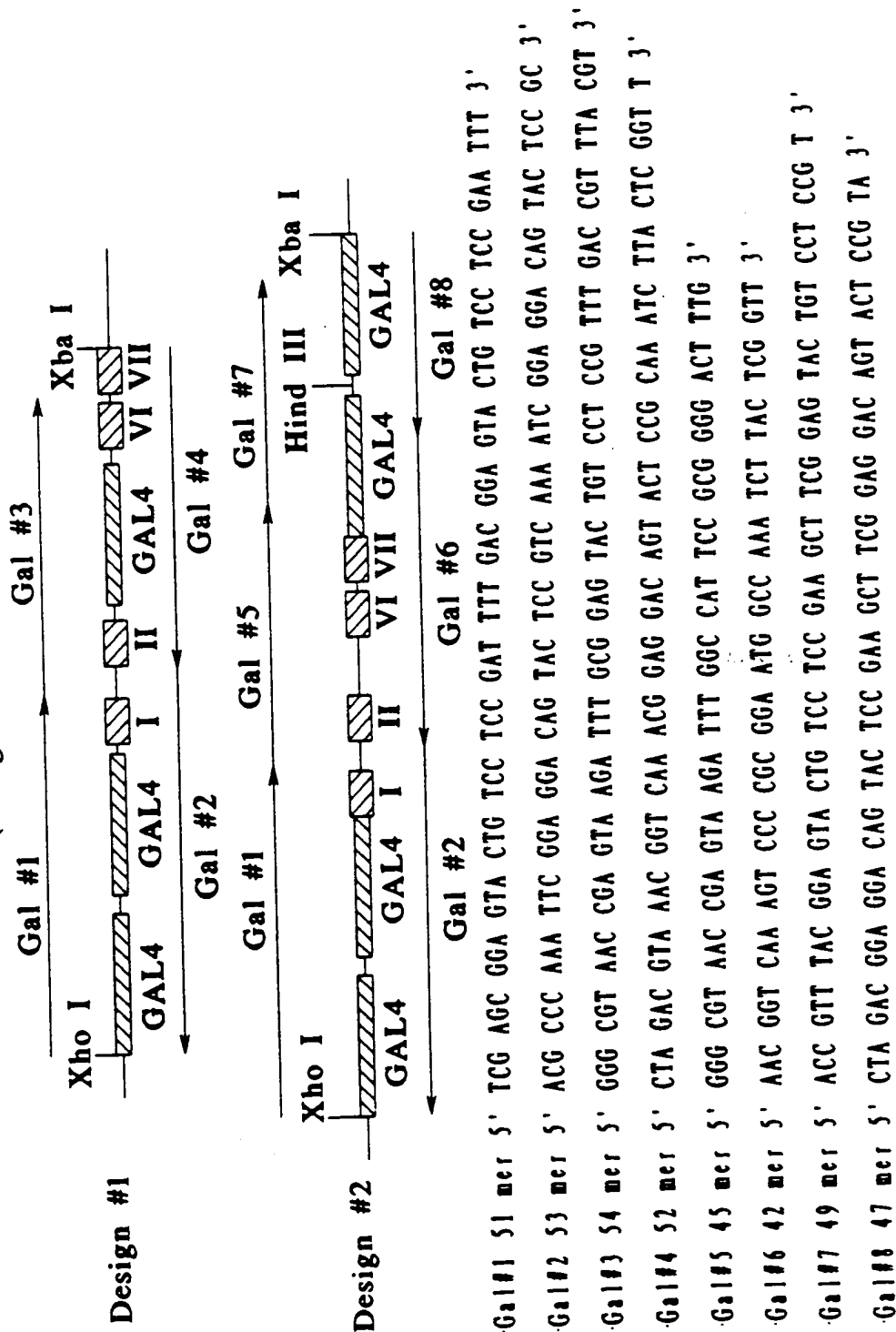
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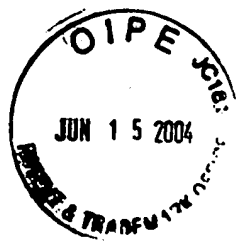
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FIGURE 14

Positions and Sequences of Synthetic Oligos for Ad Pac-GAL4 Modification
(Design #1 & #2)





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Title: Mini-Ad Vector for Immunization
Application No.: 09/837079

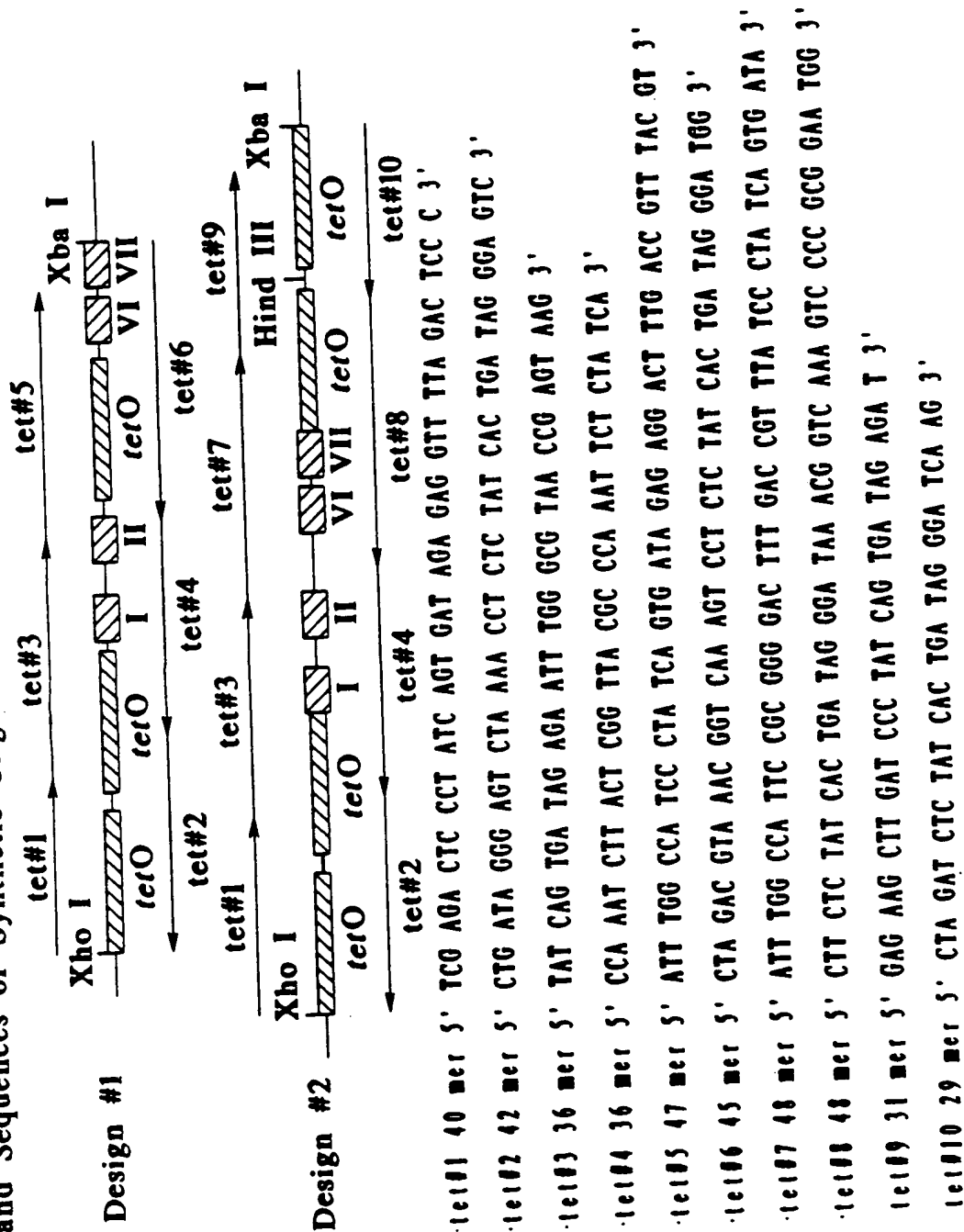
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FIGURE 15

Positions and Sequences of Synthetic Oligos for Ad Pac- *tetO* Modification (Design #1 & #2)

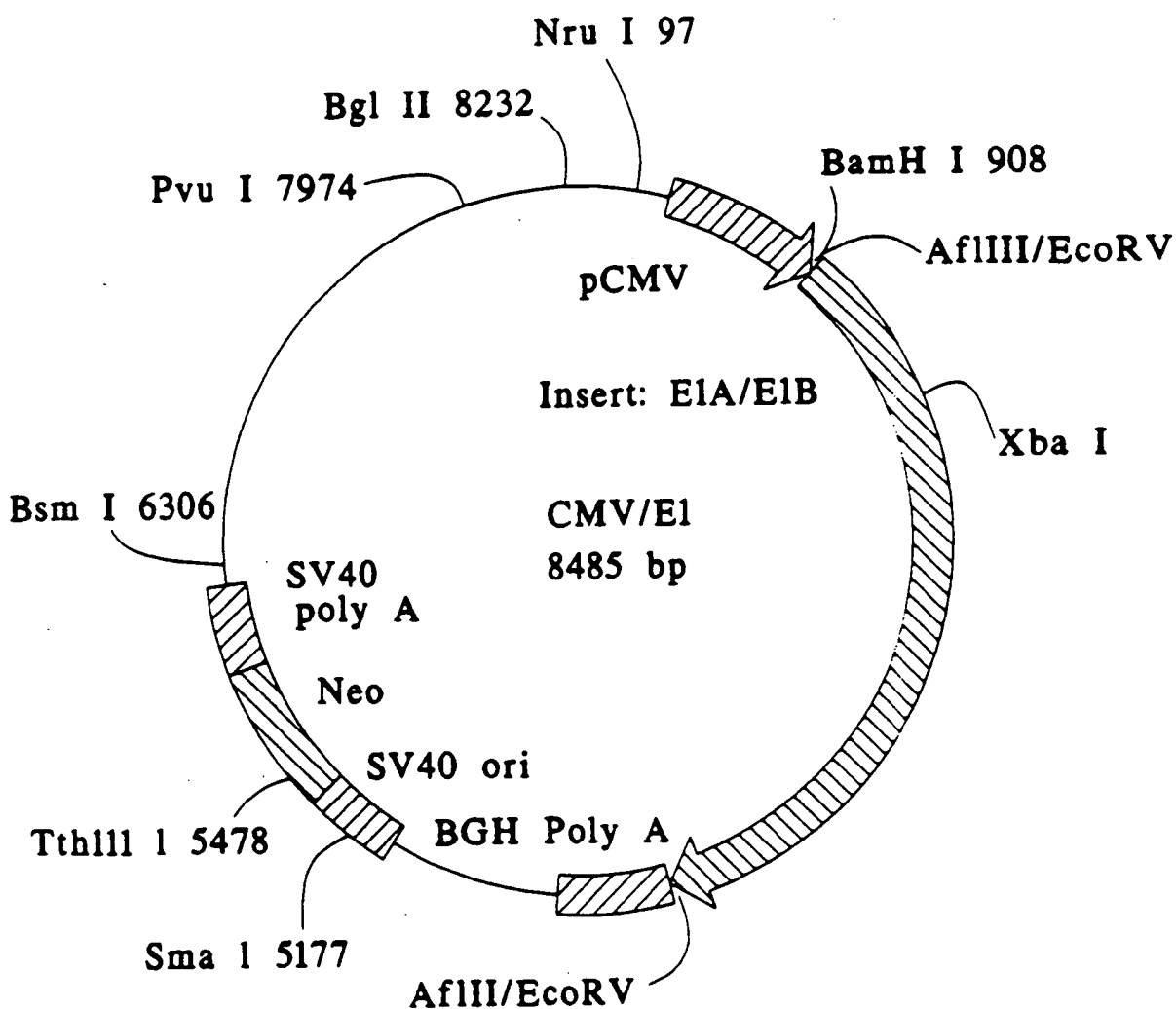




Inventors: Zhang et al.
Title: Mini-Ad Vector for Immunization
Application No.: 09/837079

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FIGURE 16





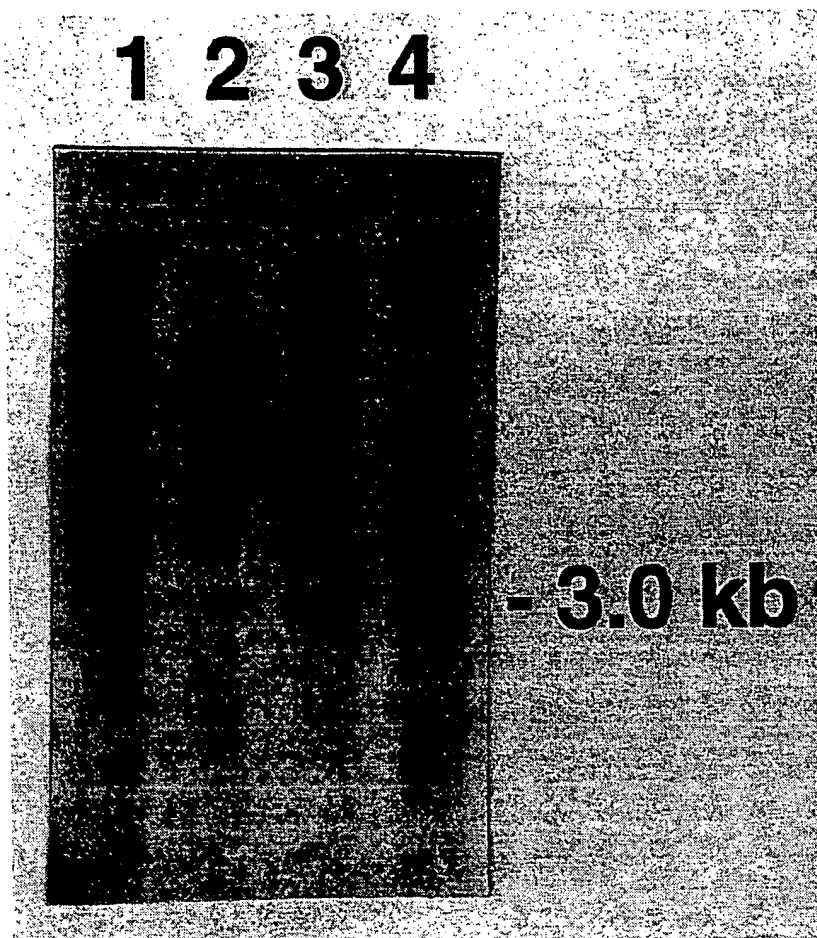
Inventors: Zhang et al.
Title: Mini-Ad Vector for Immunization
Application No.: 09/837079

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FIGURE 17





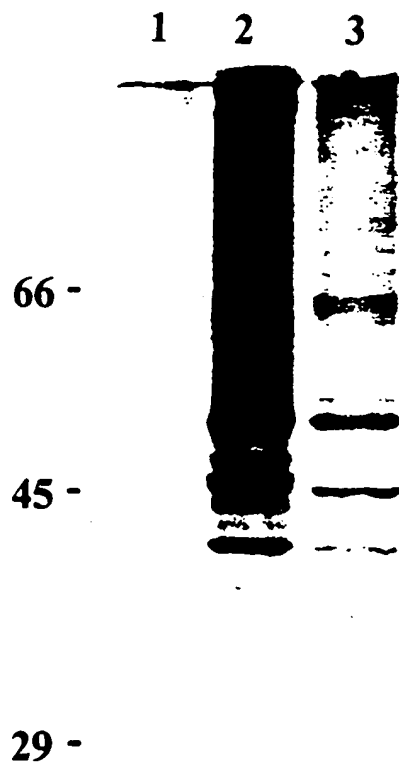
Inventors: Zhang et al.
Title: Mini-Ad Vector for Immunization
Application No.: 09/837079

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FIGURE 18





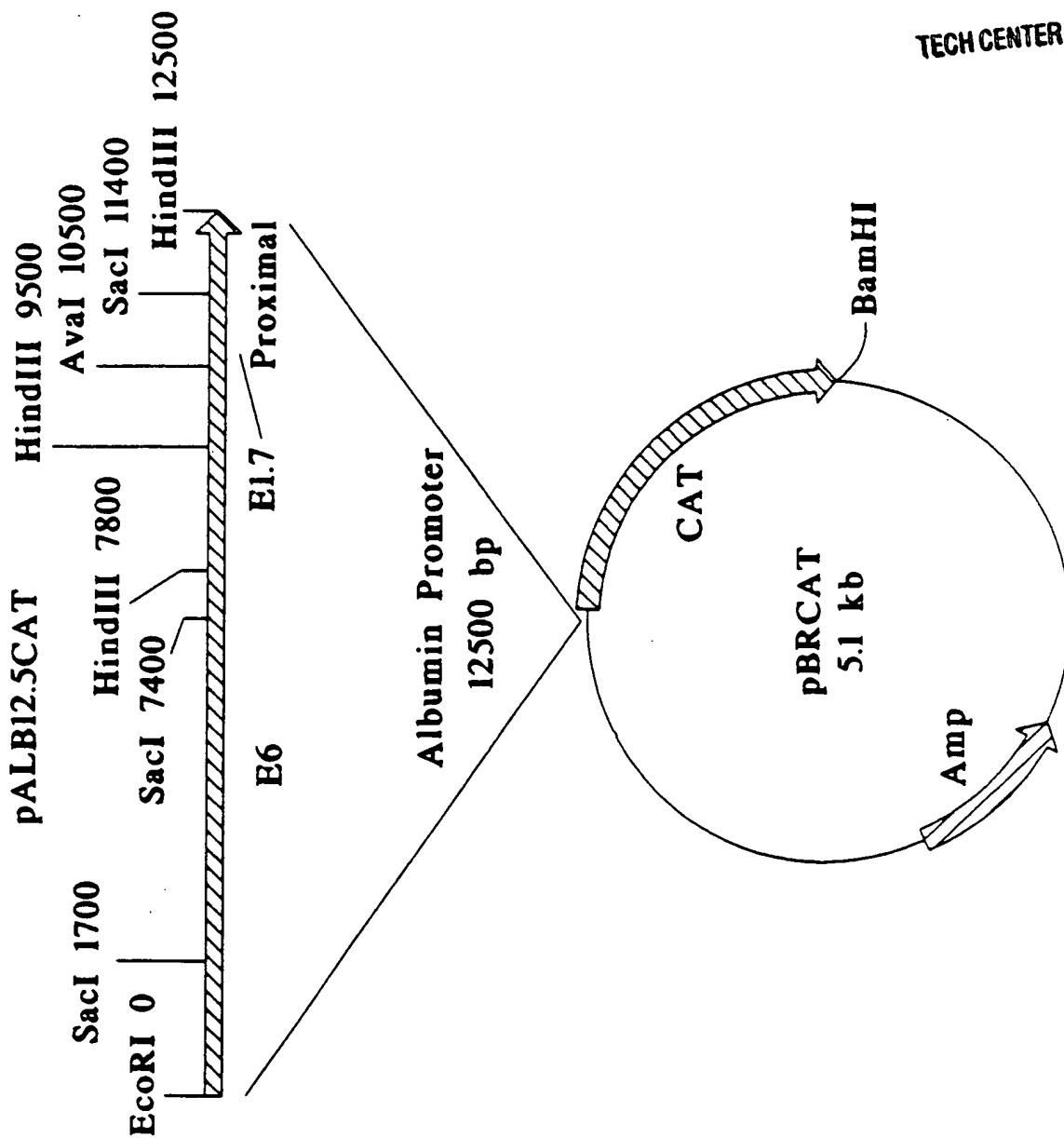
Inventors: Zhang et al.
Title: Mini-Ad Vector for Immunization
Application No.: 09/837079

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FIGURE 19





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Title: Mini-Ad Vector for Immunization
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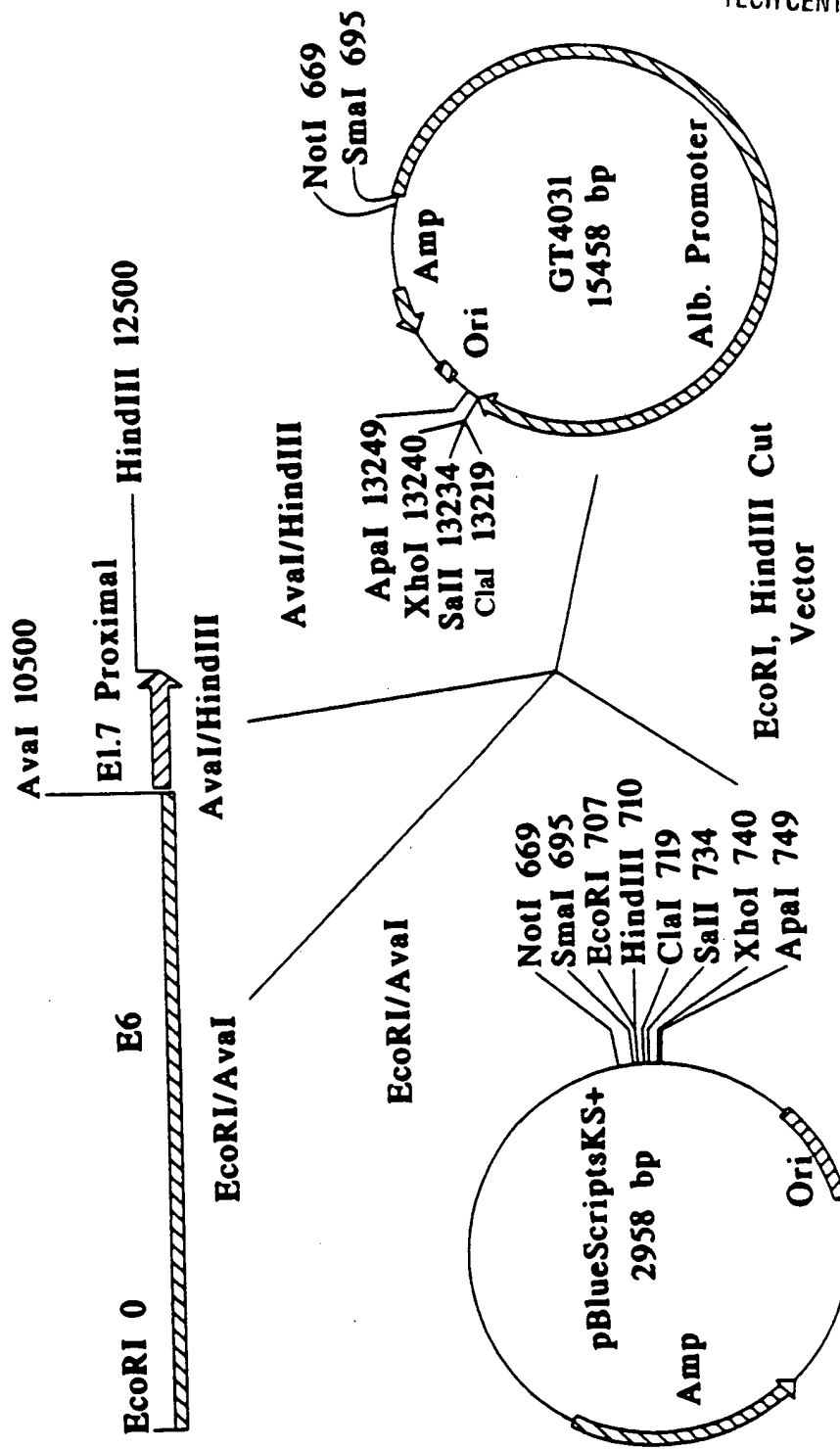
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FIGURE 20

Albumin 12.5 kb Promoter Fragments



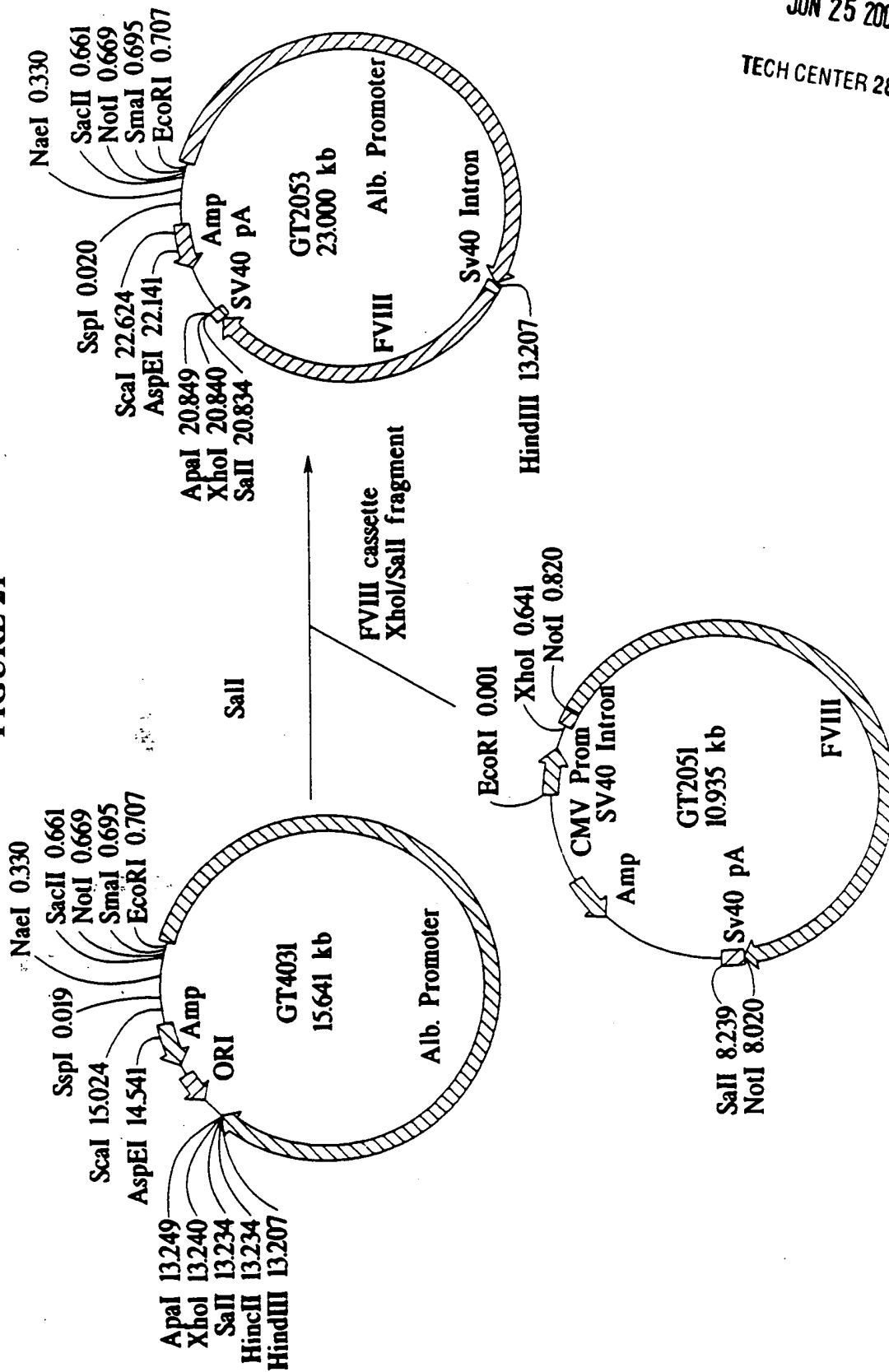


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FIGURE 21

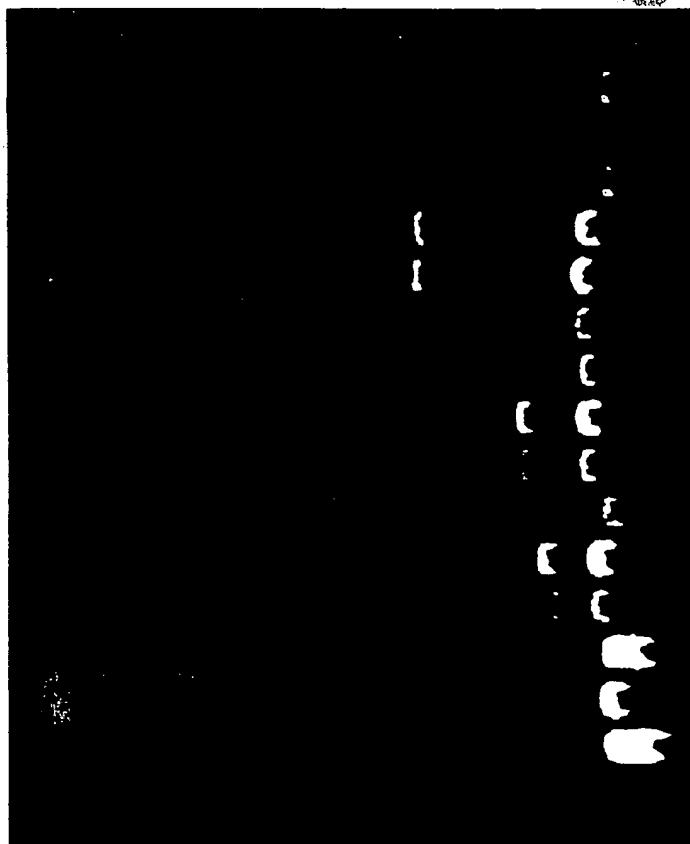




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FIGURE 23



1 Kb DNA Marker

GT2053

GT2061

GT2059

GT2053 BamHI

GT2061 BamHI

GT2059 BamHI

GT2053 XbaI

GT2061 XbaI

GT2059 XbaI

GT2053 ClaI

GT2061 ClaI

GT2059 ClaI

GT2053 XhoI + SalI

GT2061 XhoI + SalI

GT2059 XhoI + SalI

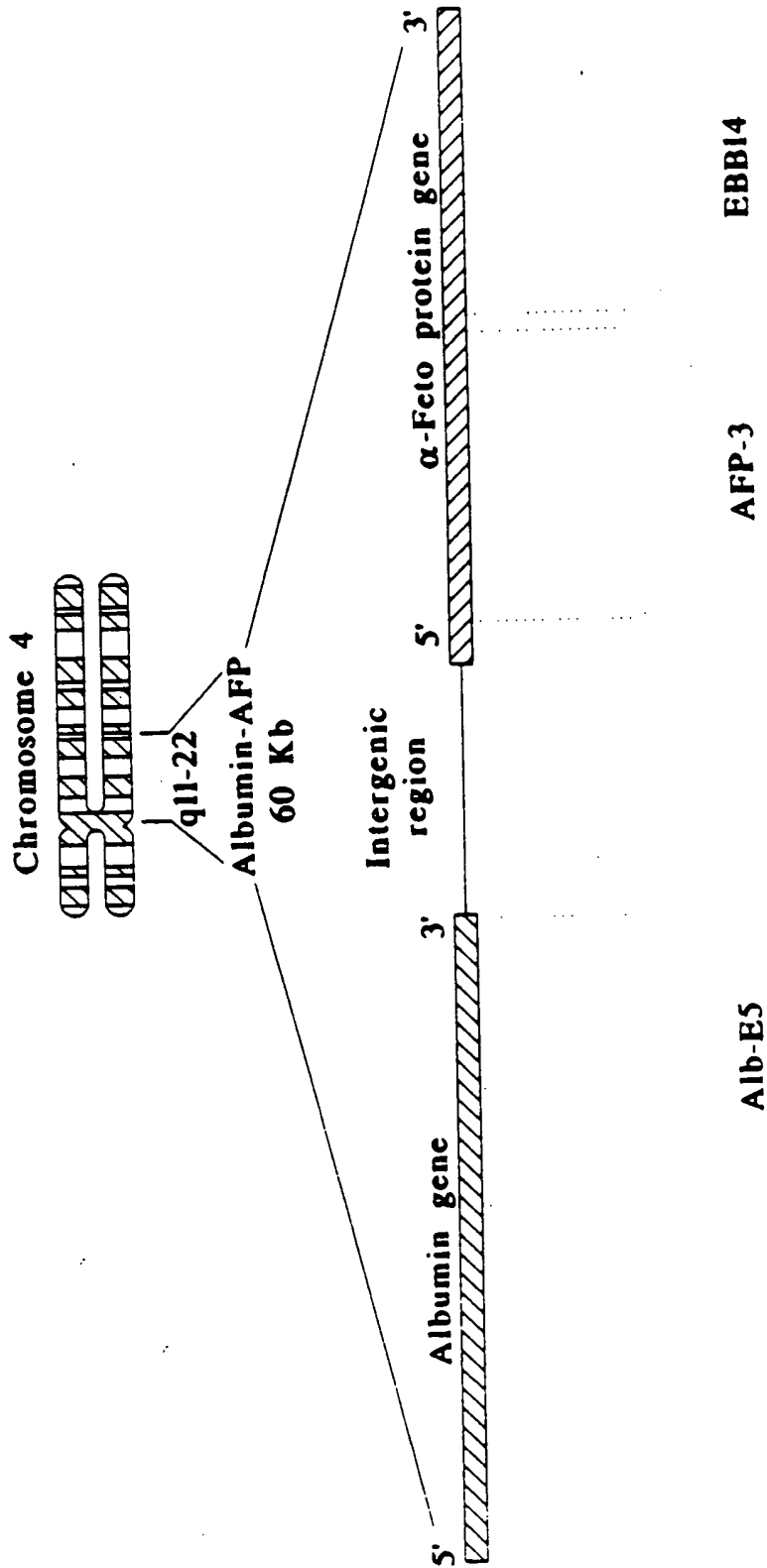
1Kb DNA marker



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FIGURE 24





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FIGURE 25

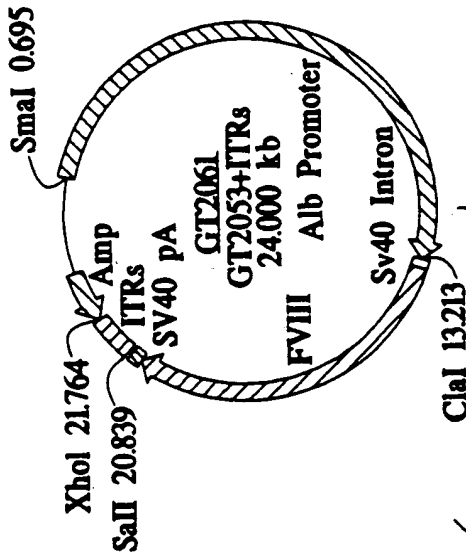


FIG. 25C

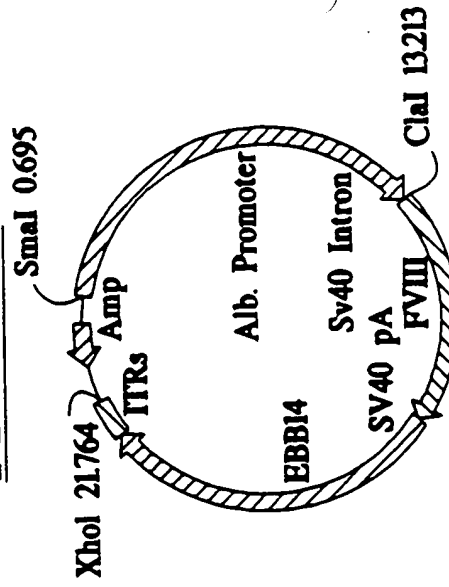


FIG. 25B

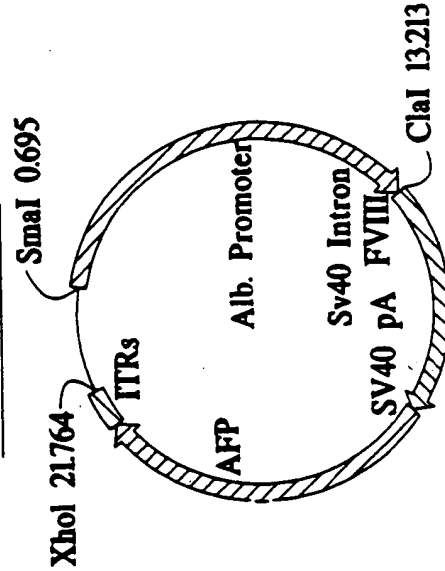
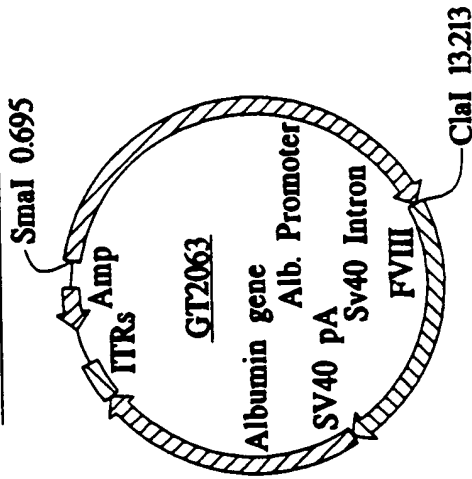


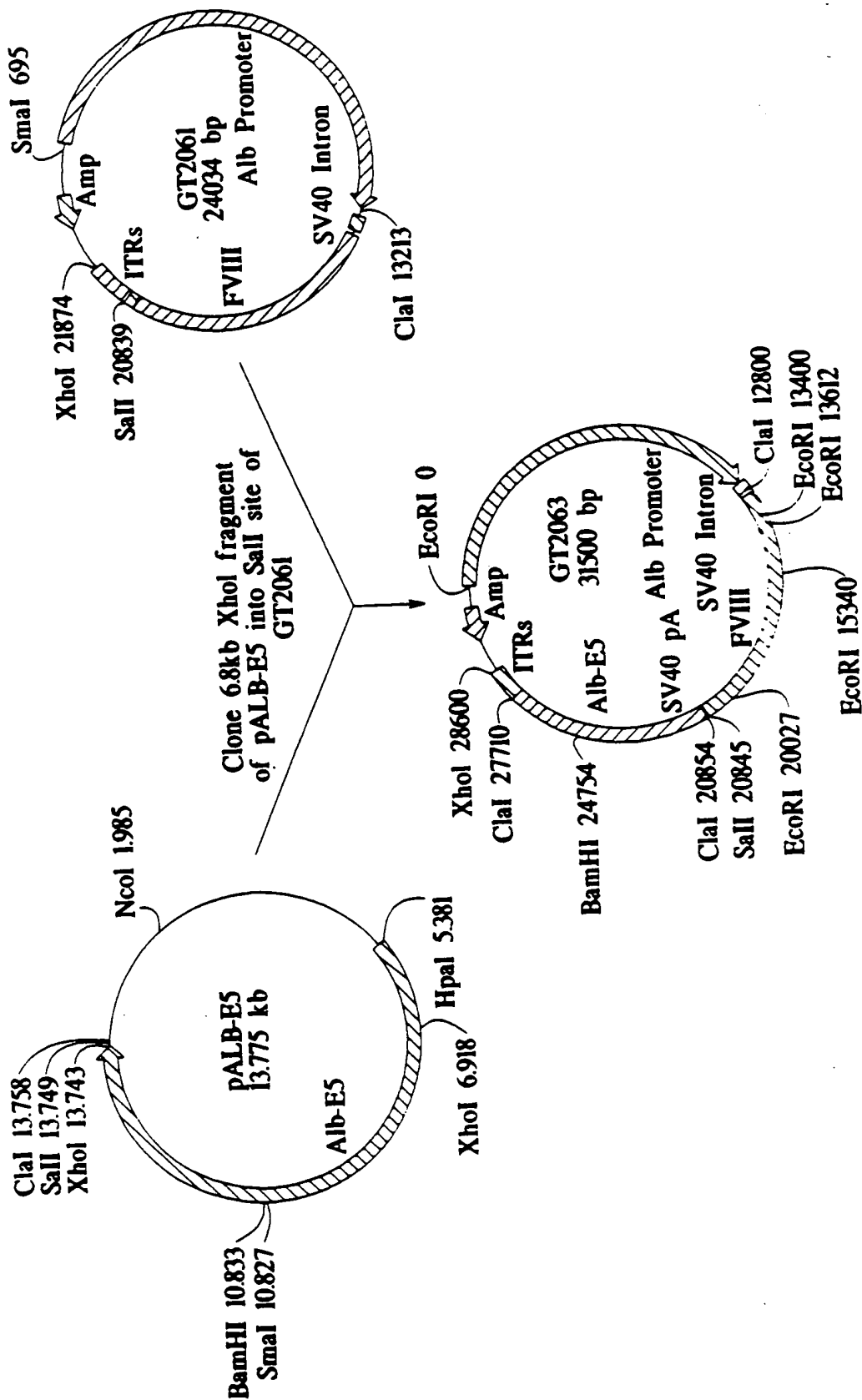
FIG. 25A





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FIGURE 26

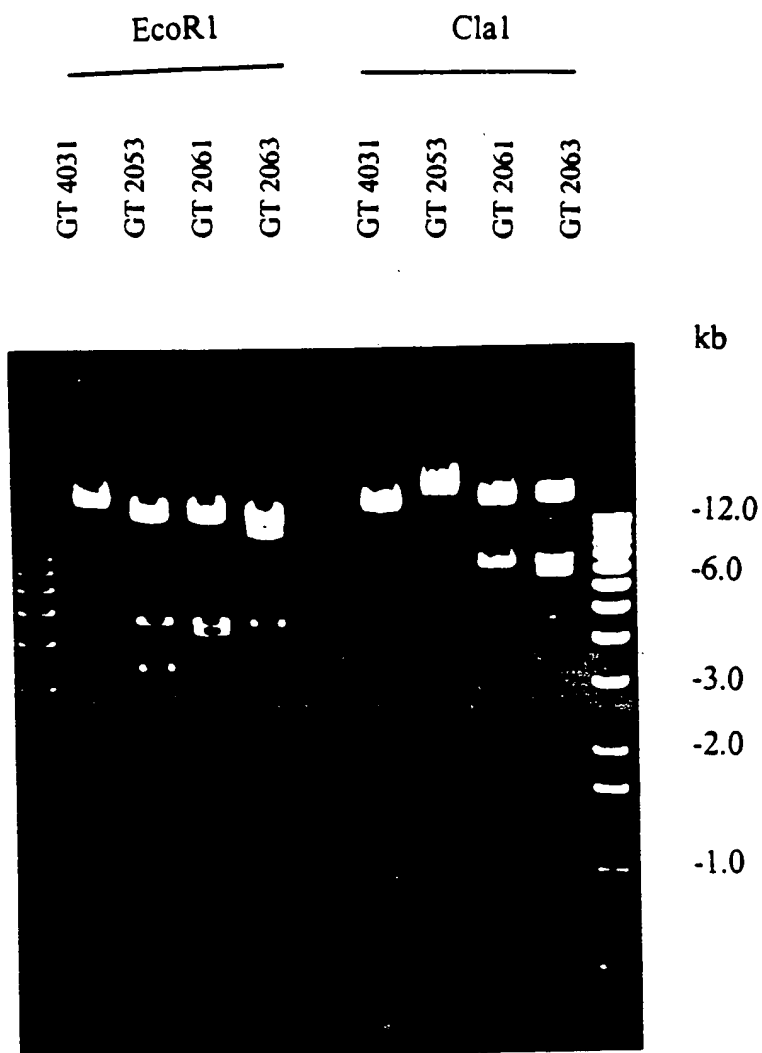




Inventors: Zhang et al.
Title: Mini-Ad Vector for Immunization
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FIGURE 27





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FIGURE 28

FIG. 28A

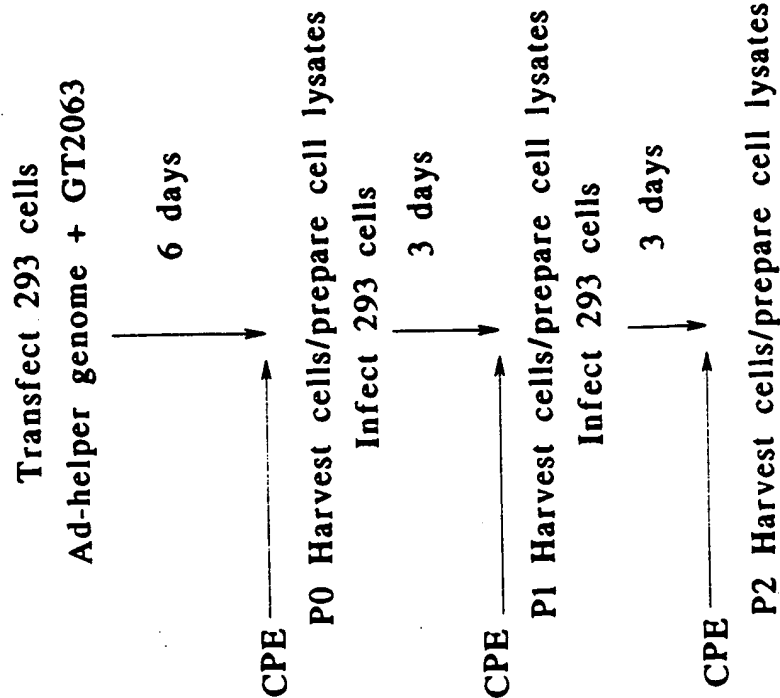
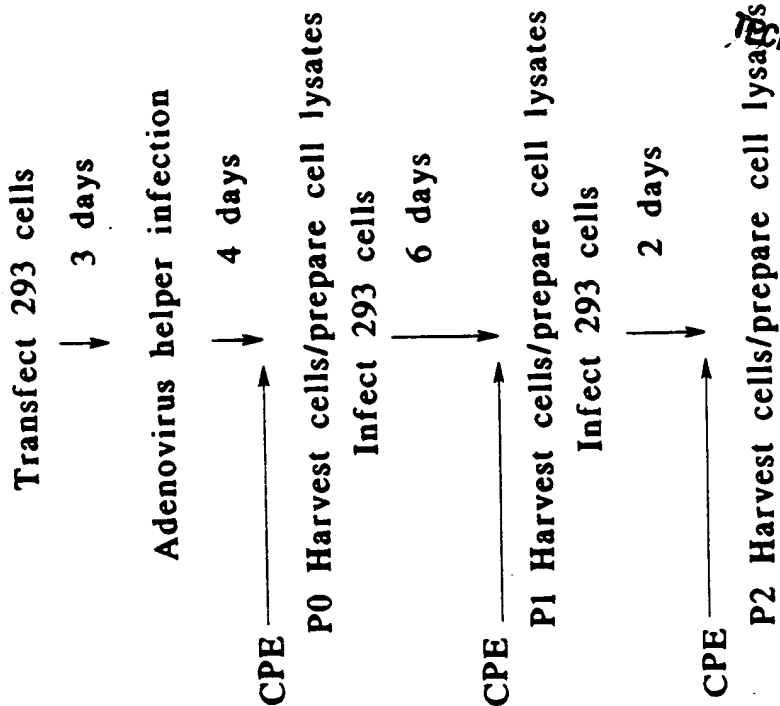


FIG. 28B







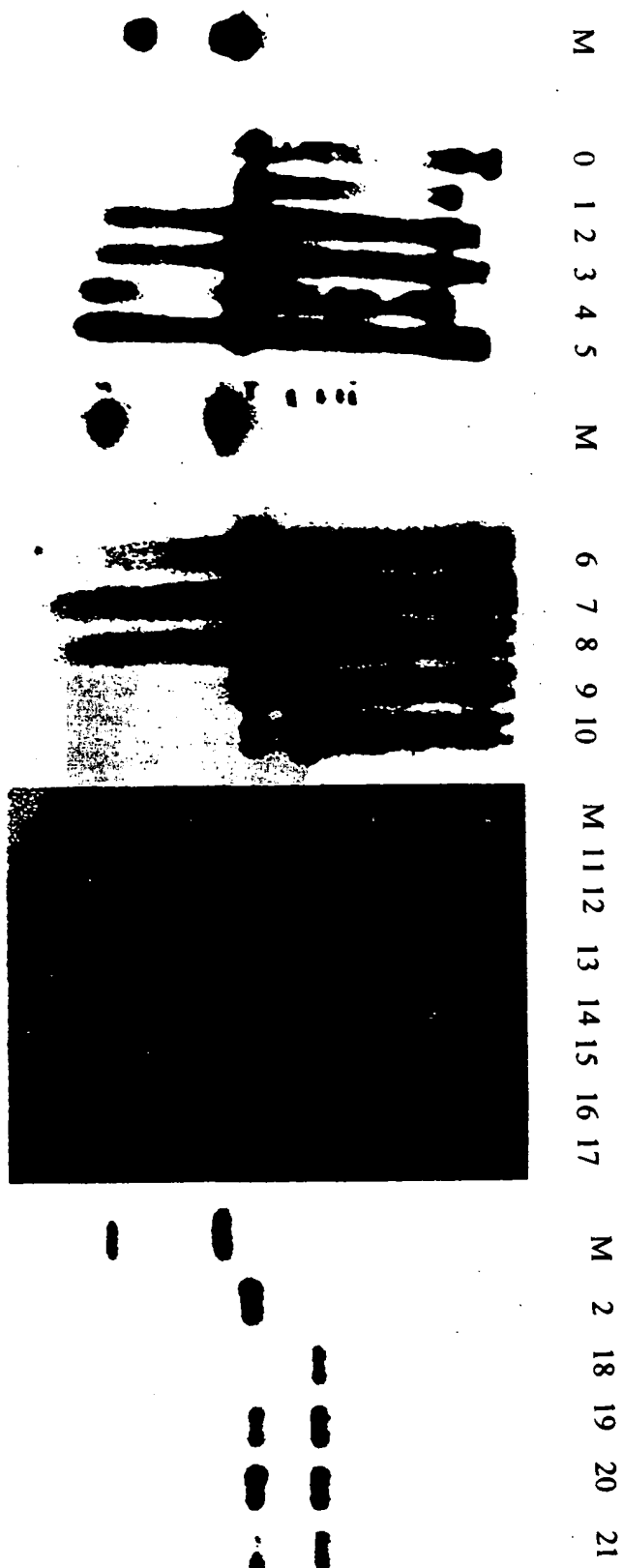
Inventors: Zhang et al.
Title: Mini-Ad Vector for Immunization
Application No.: 09/837079

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FIGURE 30

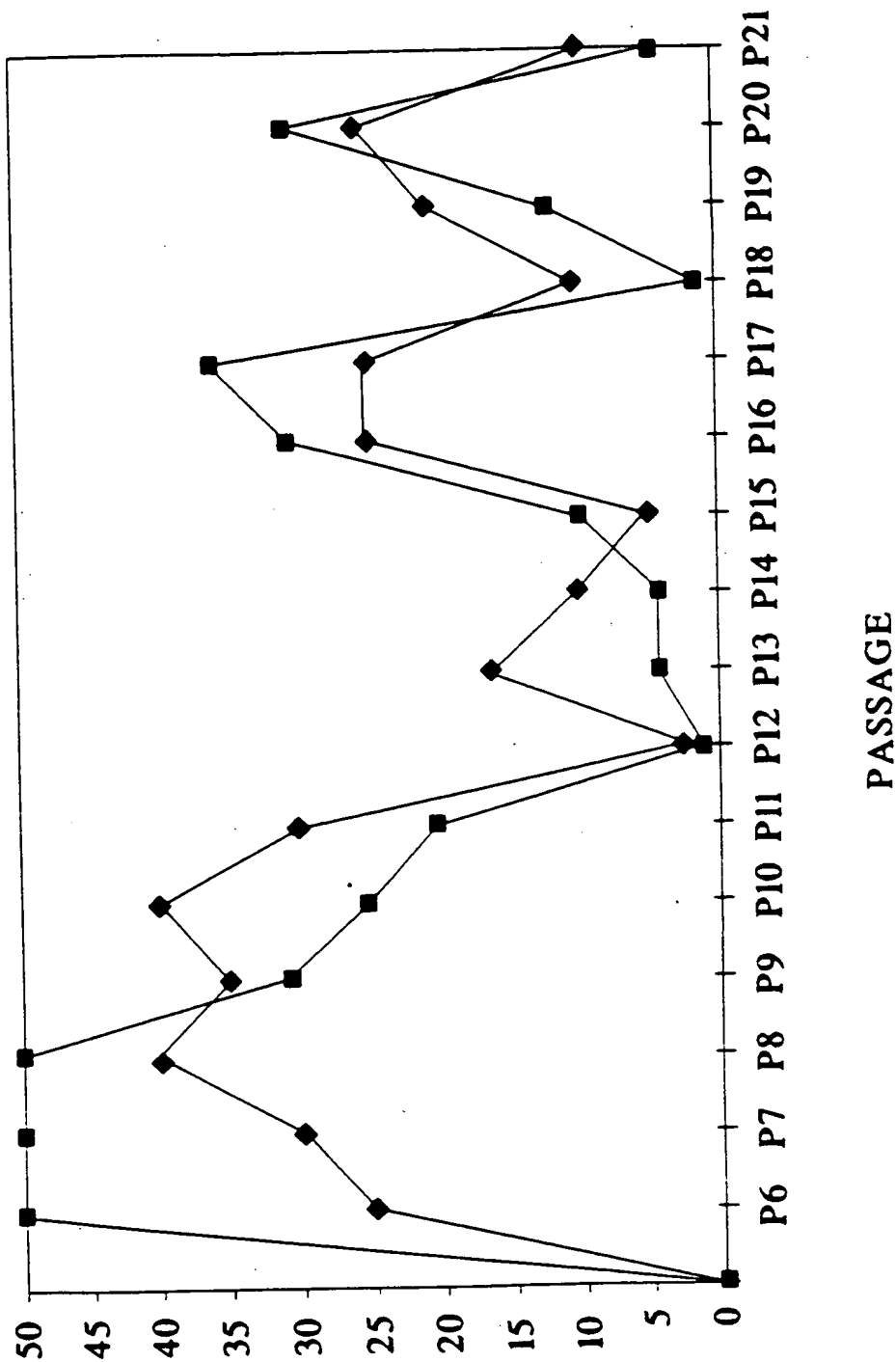




Inventors: Zhang et al.
Title: Mini-Ad Vector for Immunization
Application No.: 09/837079

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FIGURE 31





Inventors: Zhang et al.
Title: Mini-Ad Vector for Immunization
Application No.: 09/837079

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mini-AdFVIII GT2063 passage 20 grown in 293 cells

Freeze/thaw cell pellet and
load over CsCl

A



2nd CsCl

B



C

M



← mini-AdFVIII

← AdH β

FIGURE 32



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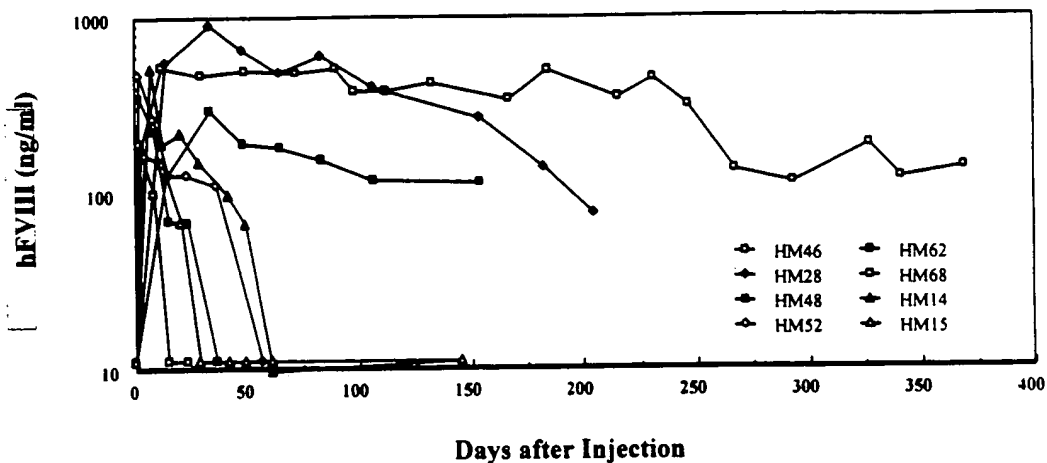
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FIGURE 33

MiniAdFVIII-Mediated Expression of hFVIII in Mice

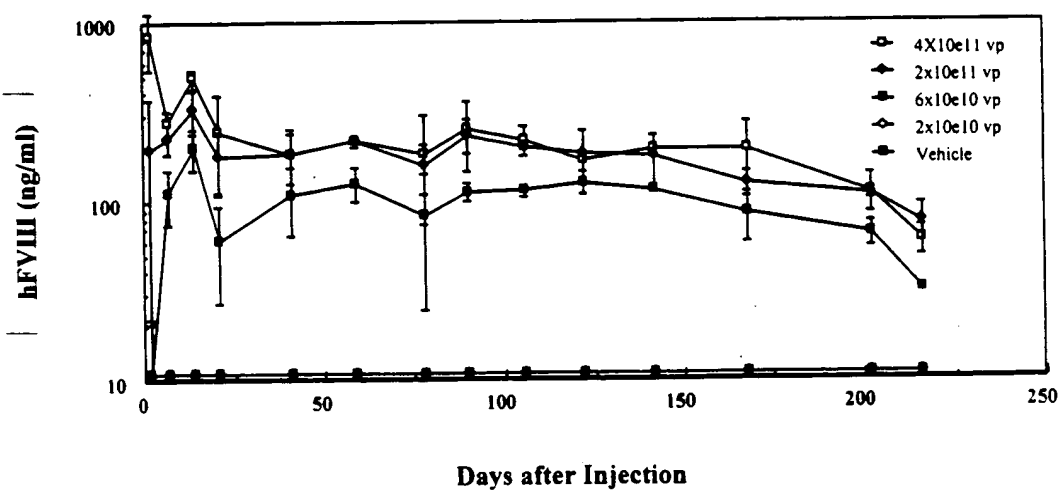
A

Hemophilic Mice



B

C57BL/6 Mice





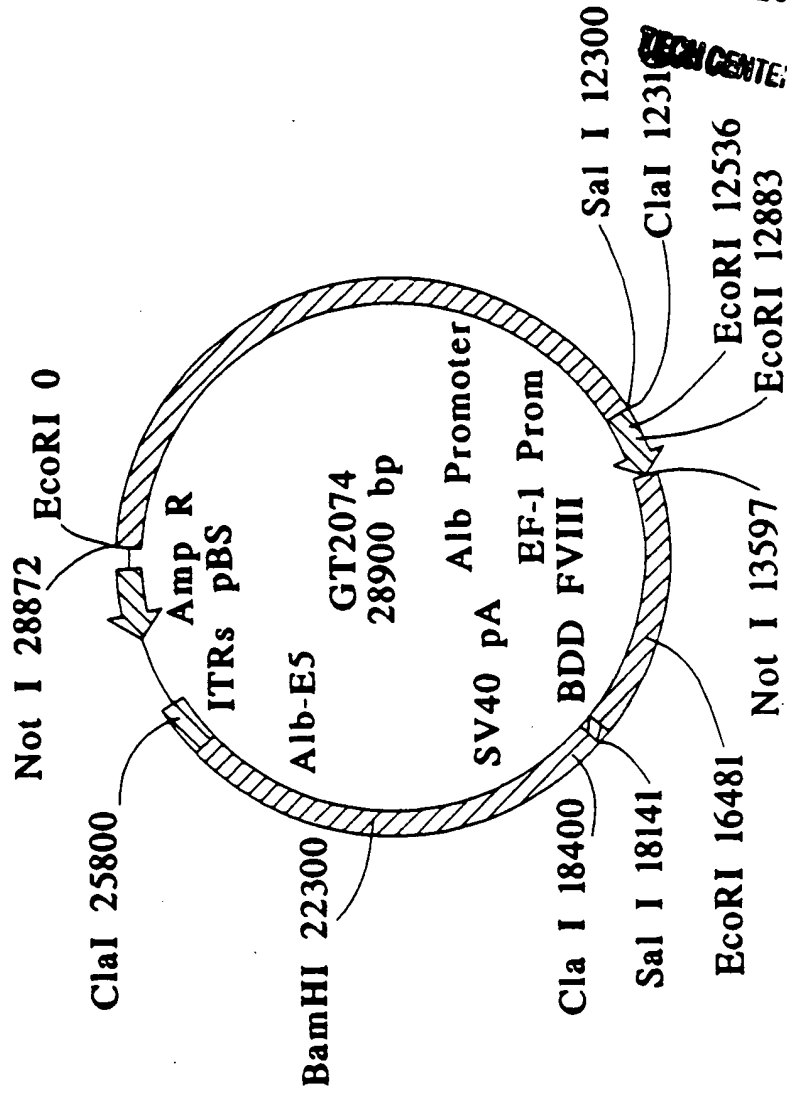
Inventors: Zhang et al.
Title: Mini-Ad Vector for Immunization
Application No.: 09/837079

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FIGURE 34

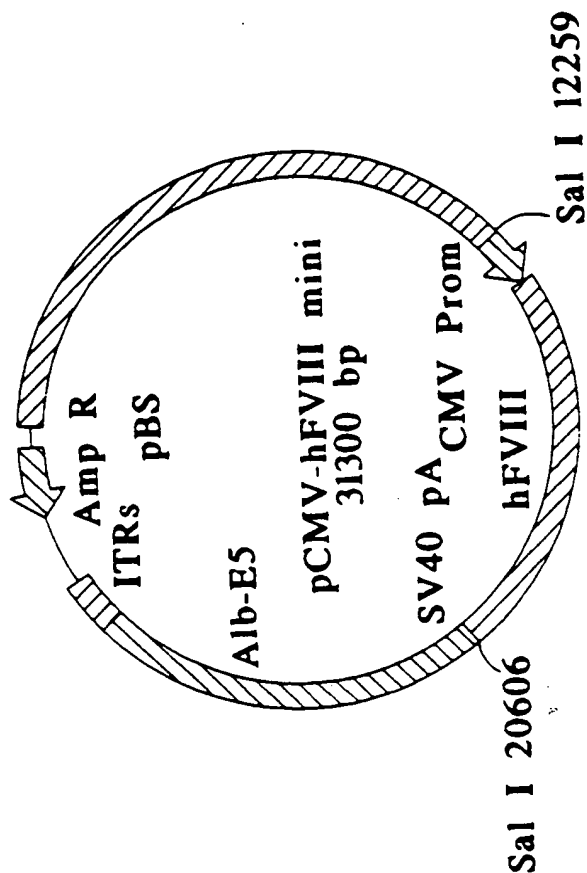




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FIGURE 35





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FIGURE 36A

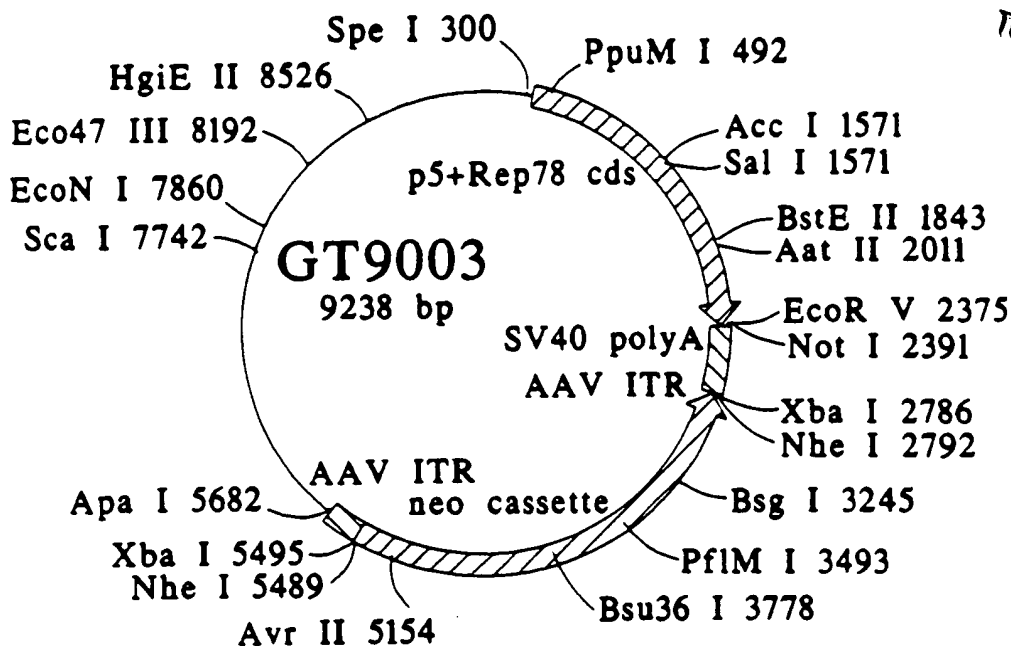
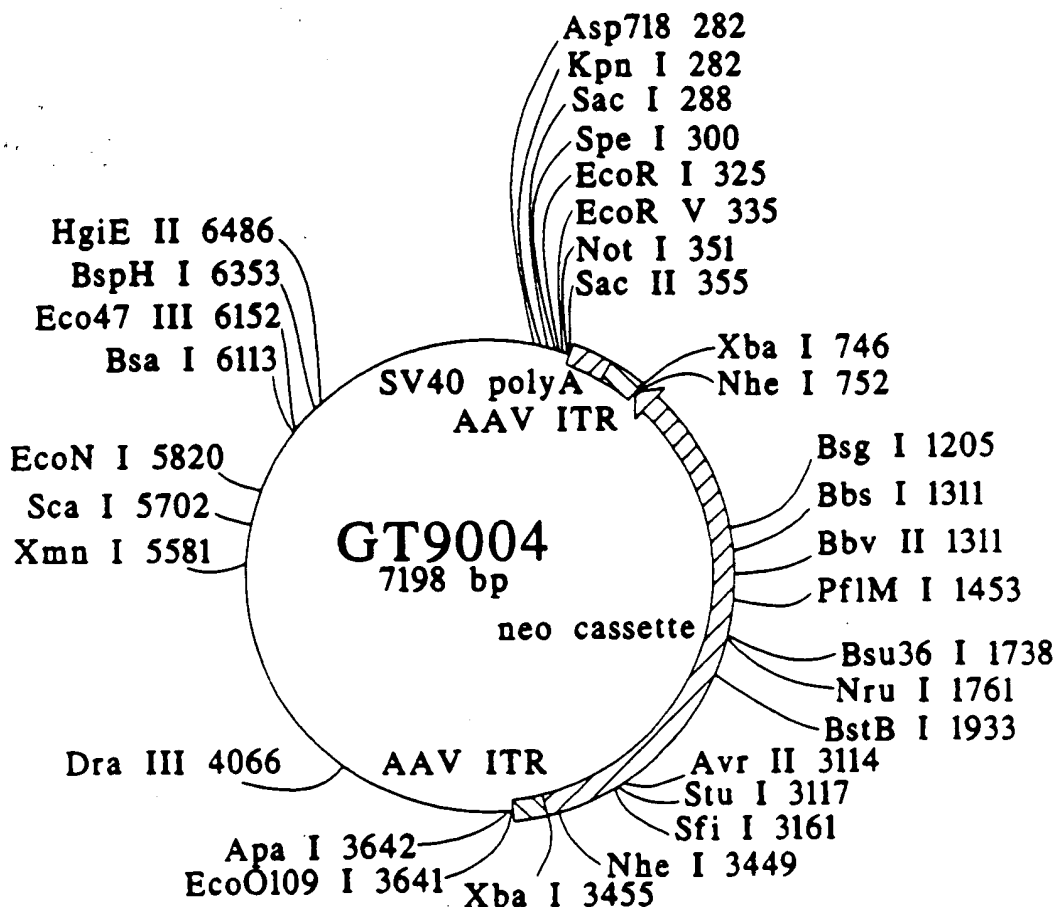
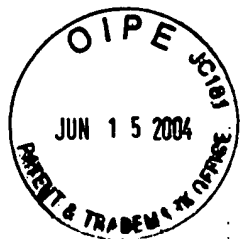


FIGURE 36B





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Title: Mini-Ad Vector for Immunization
Application No.: 09/837079

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FIGURE 36C

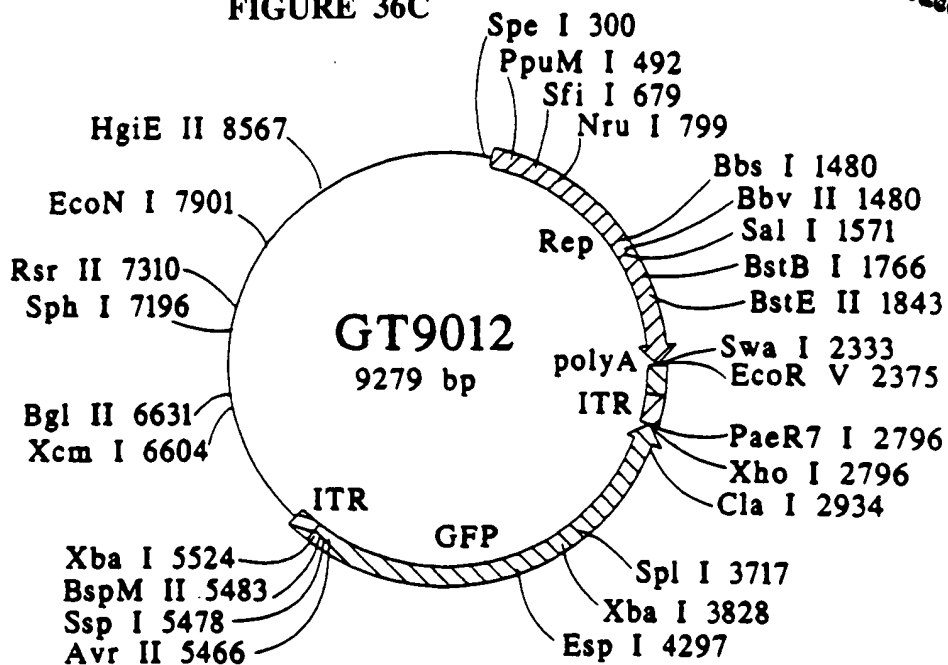
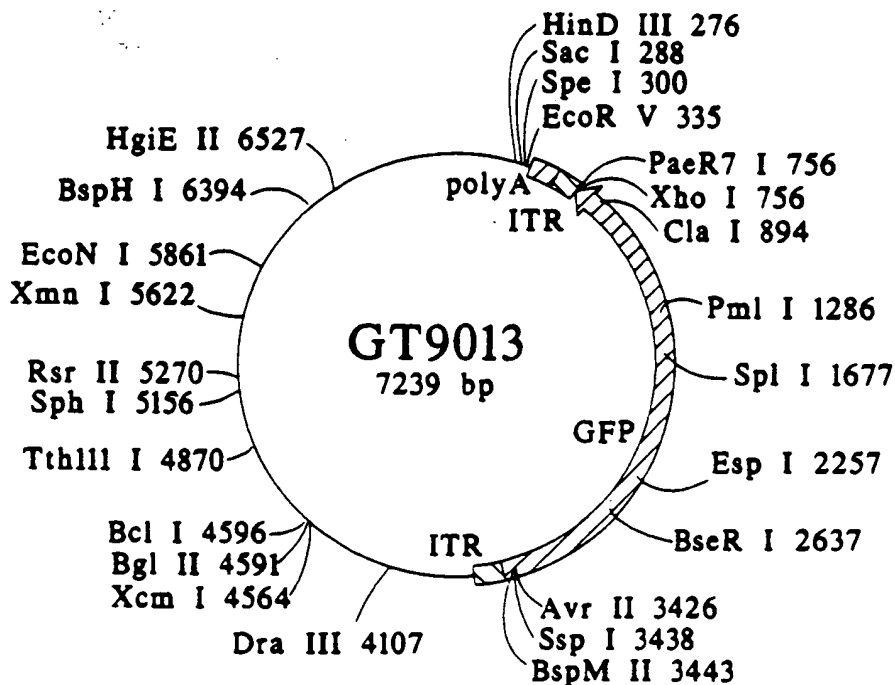


FIGURE 36D

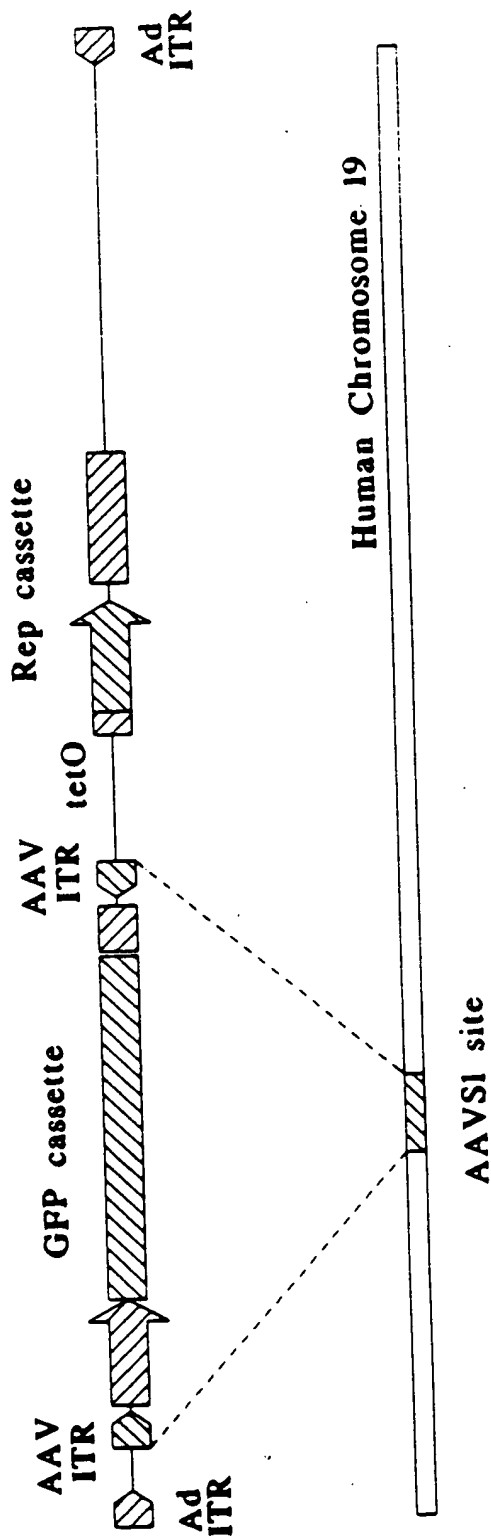




Inventors: Zhang et al.
Title: Mini-Ad Vector for Immunization
Application No.: 09/837079

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FIGURE 37

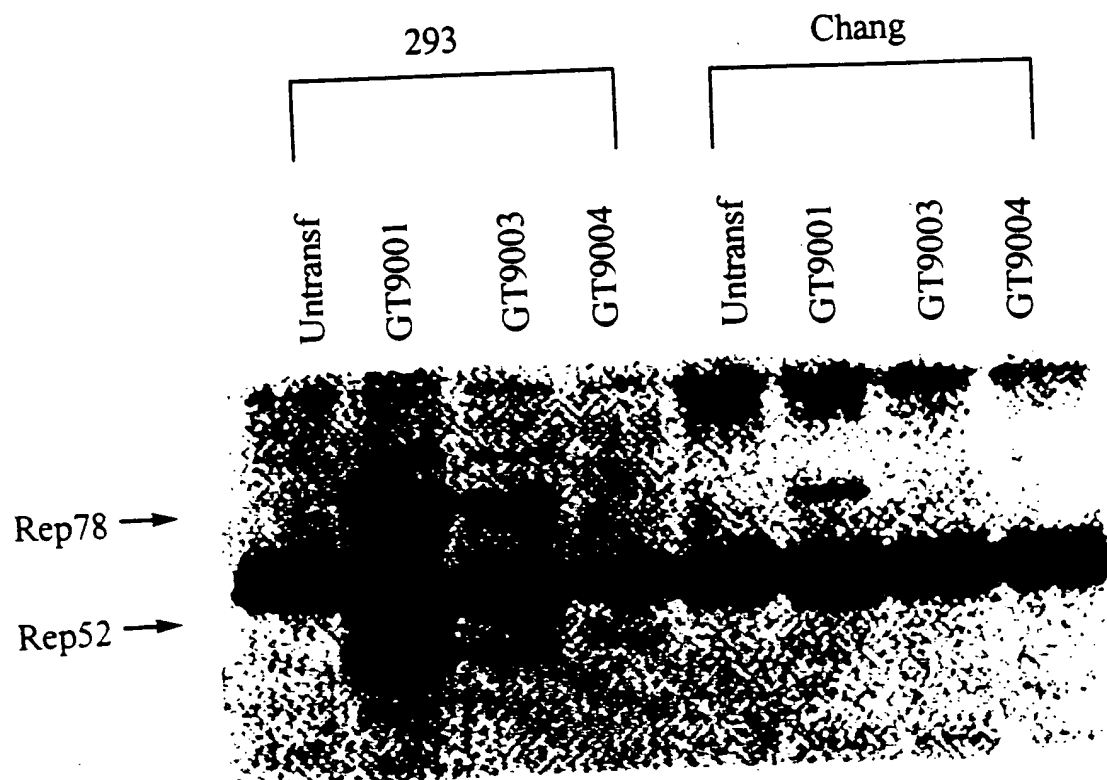




Inventors: Zhang et al.
Title: Mini-Ad Vector for Immunization
Application No.: 09/837079

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FIGURE 38

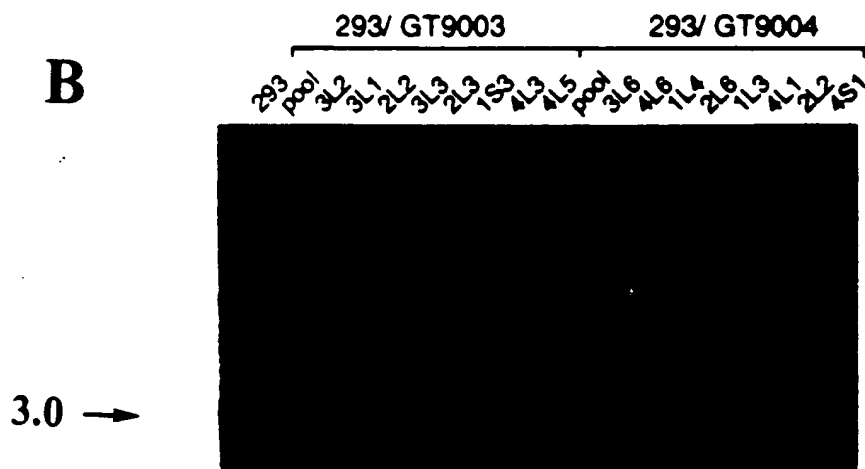
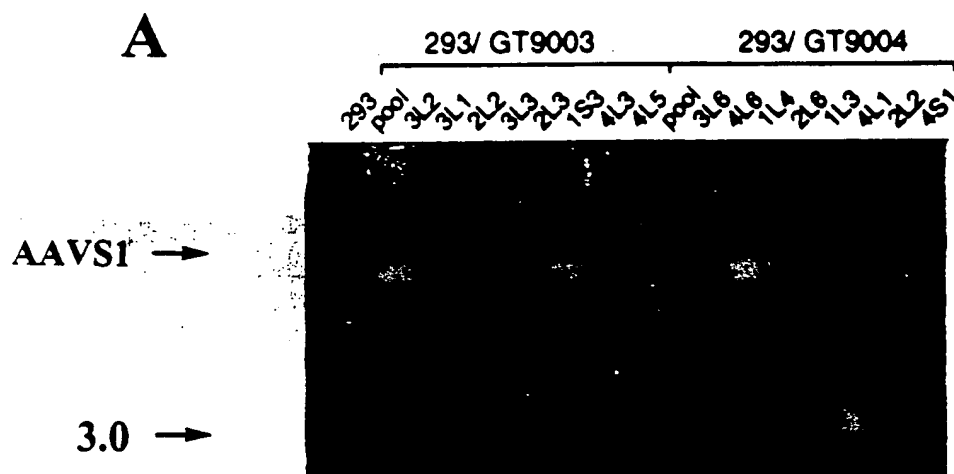




Inventors: Zhang et al.
Title: Mini-Ad Vector for Immunization
Application No.: 09/837079

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FIGURE 39

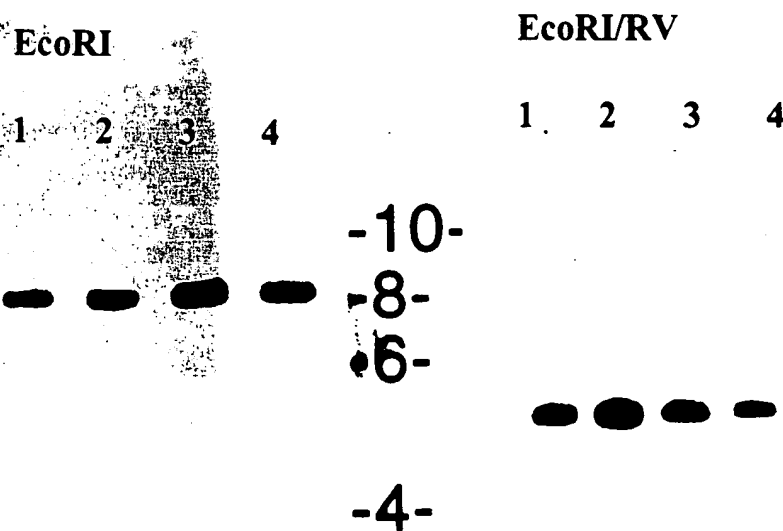


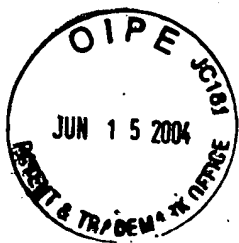


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FIGURE 41

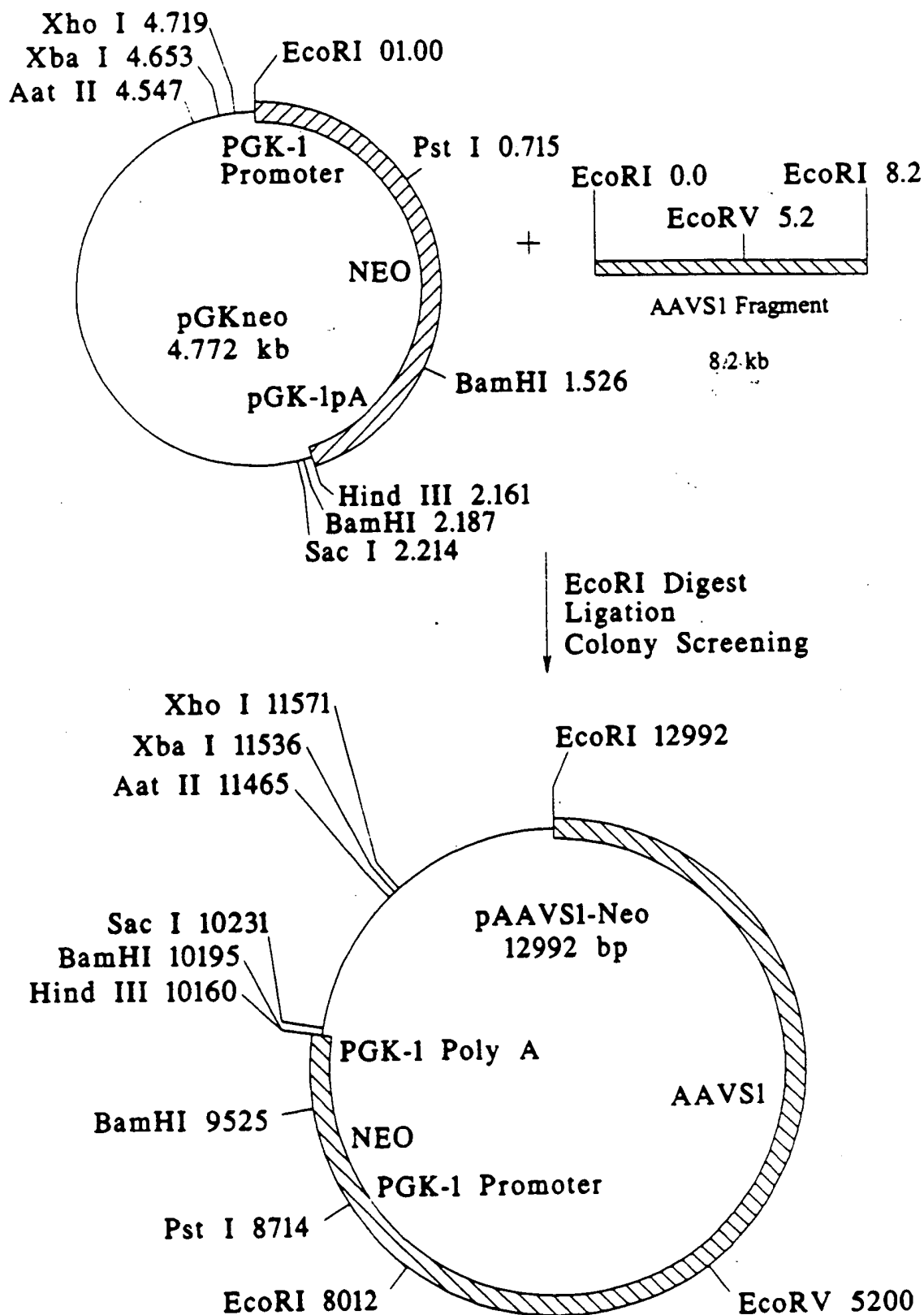


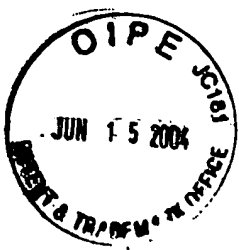


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FIGURE 42

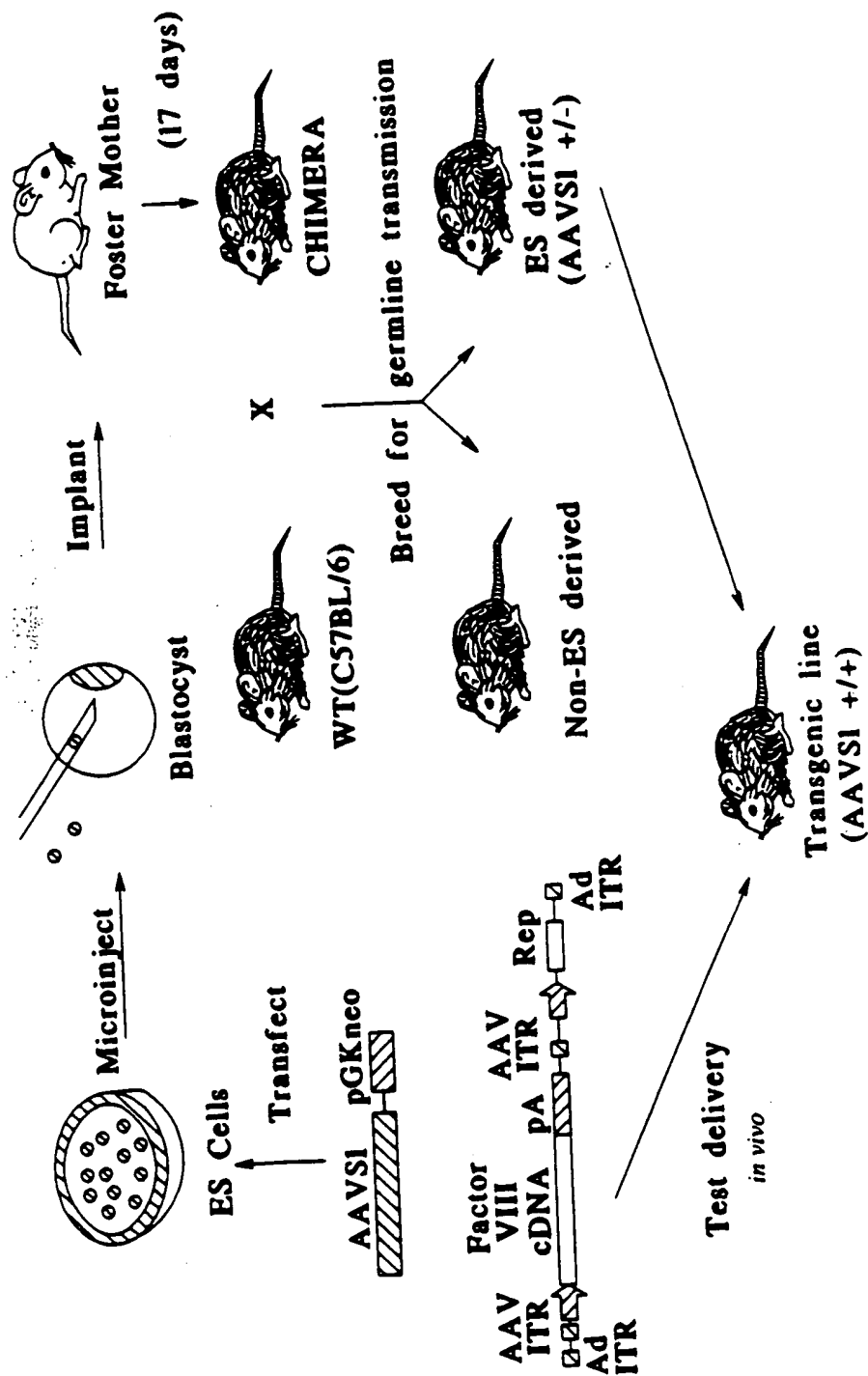




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FIGURE 43

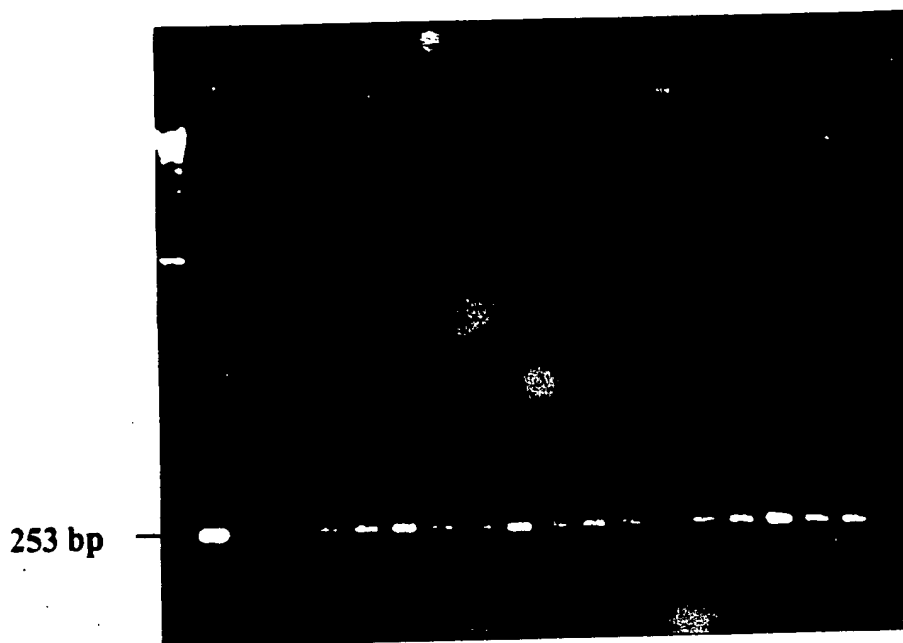




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Title: Mini-Ad Vector for Immunization
Application No.: 09/837079

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FIGURE 44





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FIGURE 45

4 3.16 B7

5.2 kb →

3.0 kb →

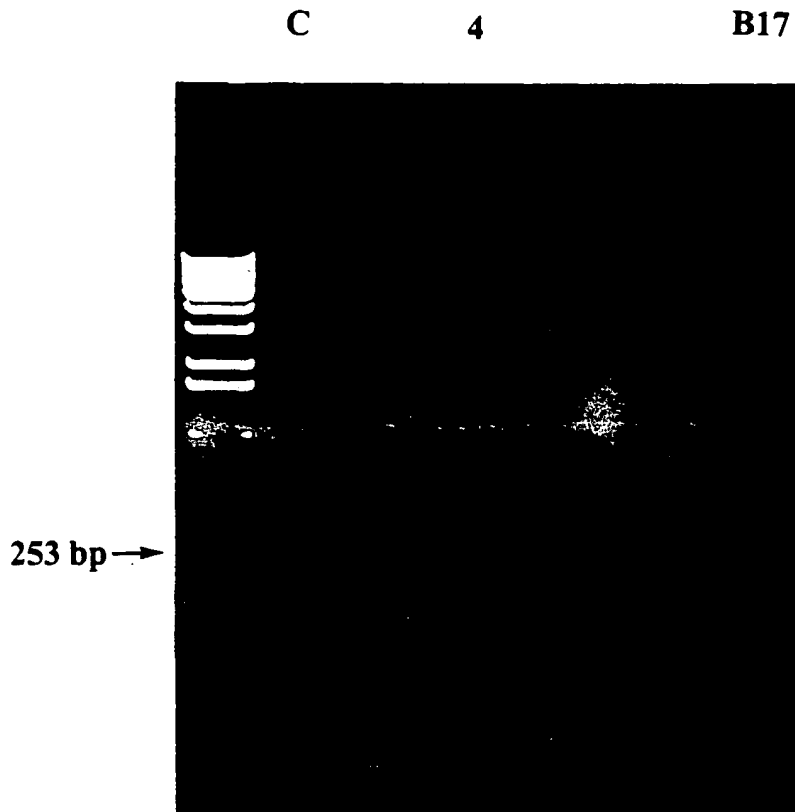




Inventors: Zhang et al.
Title: Mini-Ad Vector for Immunization
Application No.: 09/837079

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FIGURE 46

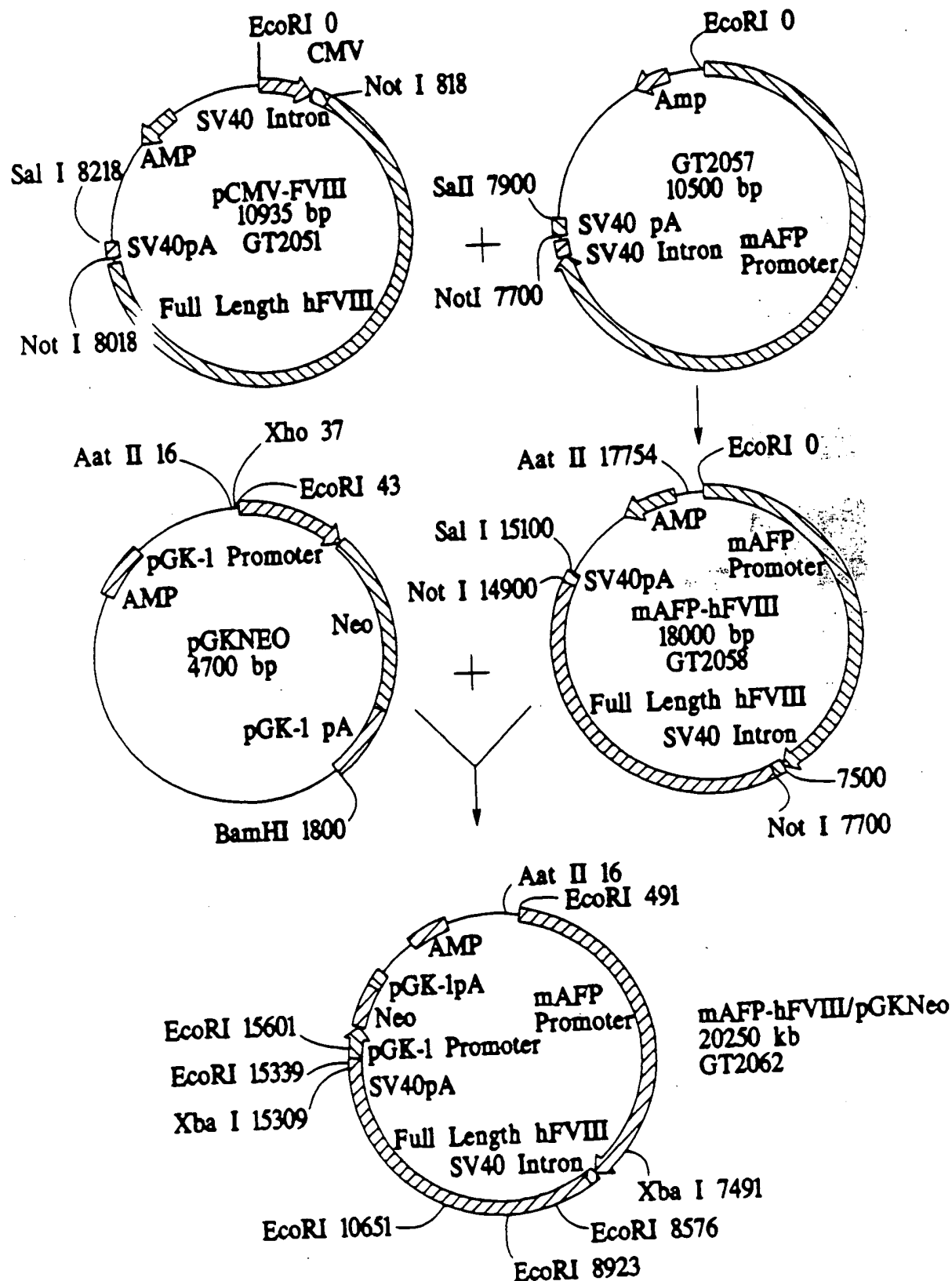




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FIGURE 47





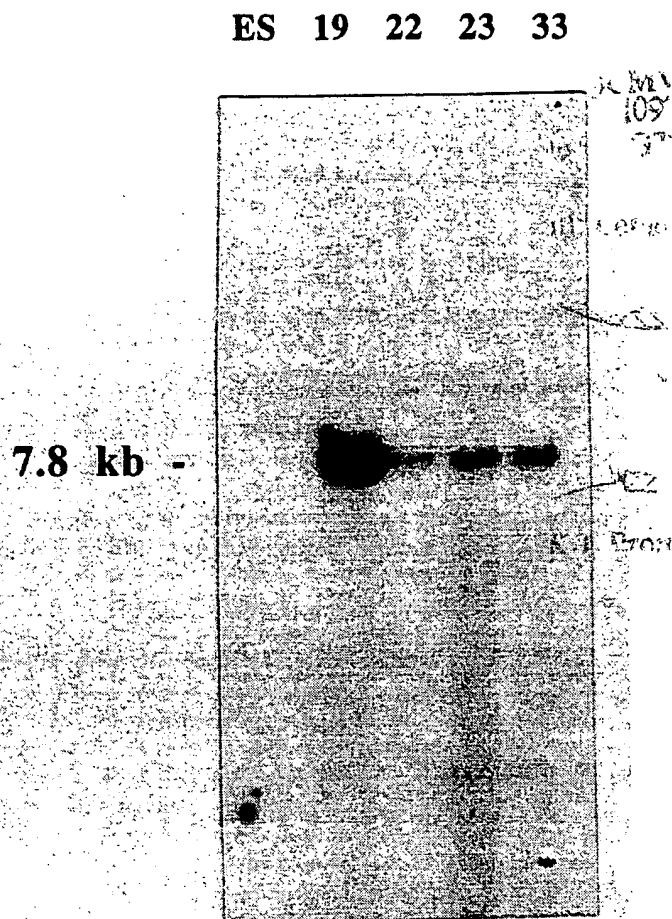
Inventors: Zhang et al.
Title: Mini-Ad Vector for Immunization
Application No.: 09/837079

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FIGURE 48



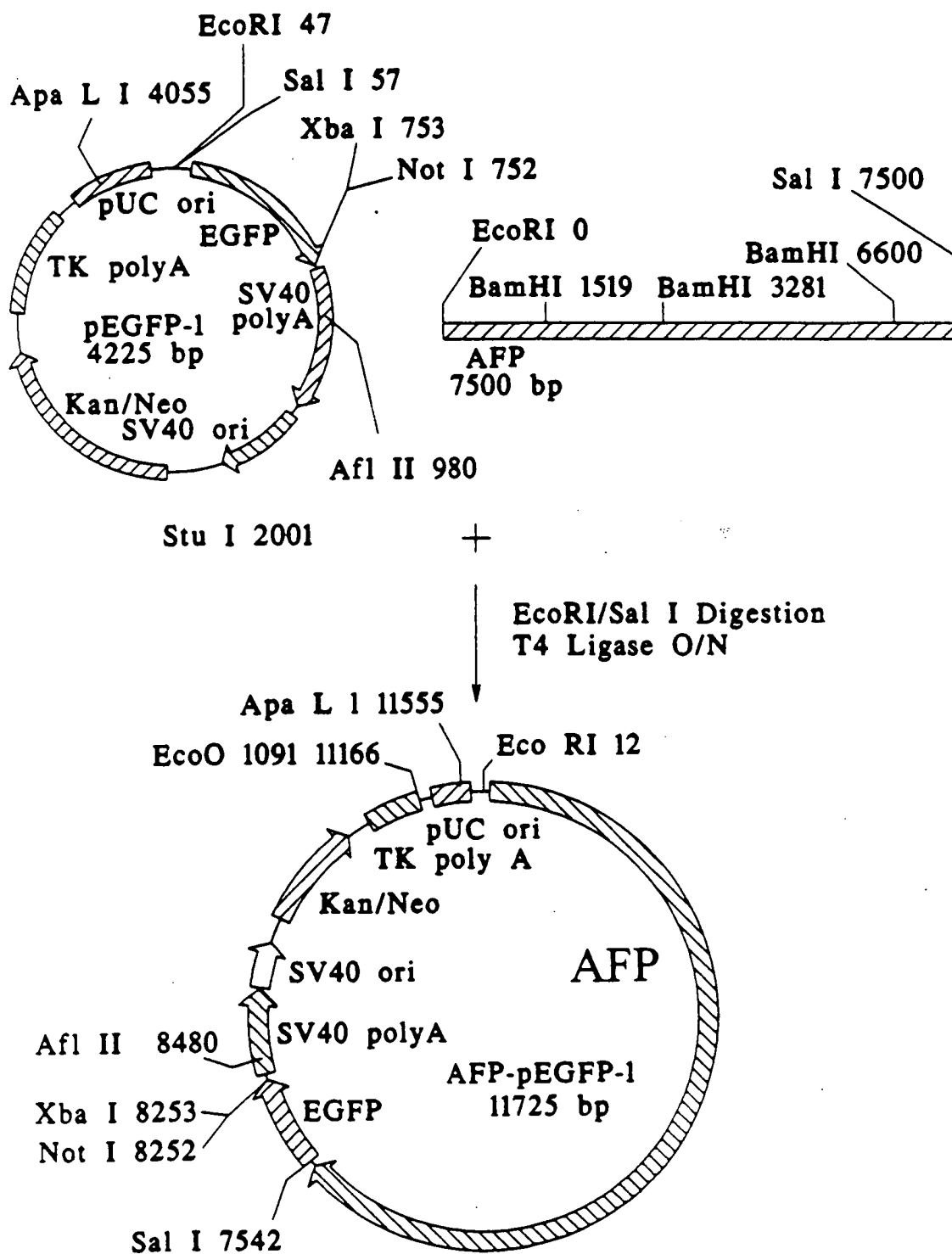


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FIGURE 49



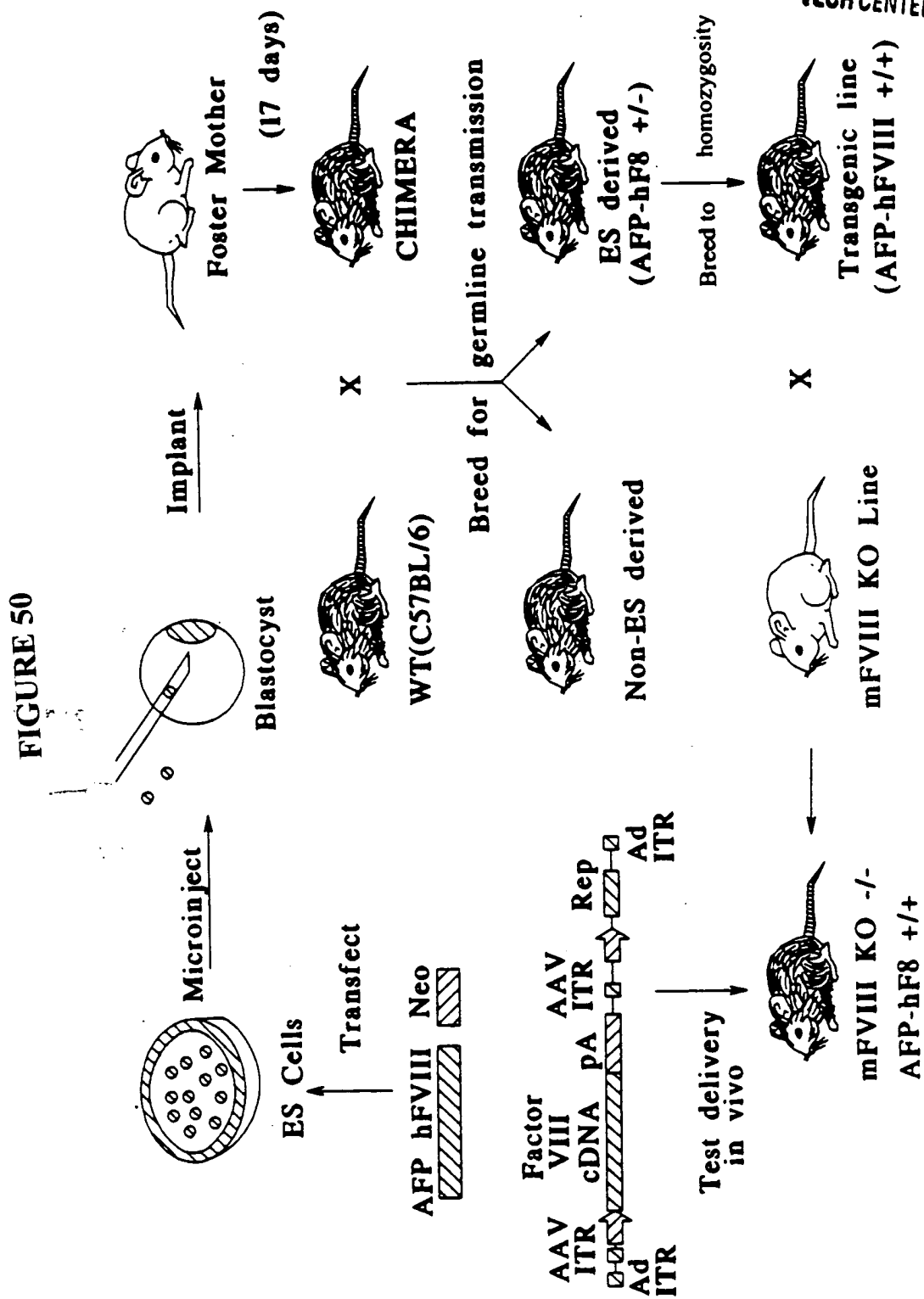


Inventors: Zhang et al.
Title: Mini-Ad Vector for Immunization
Application No.: 09/837079

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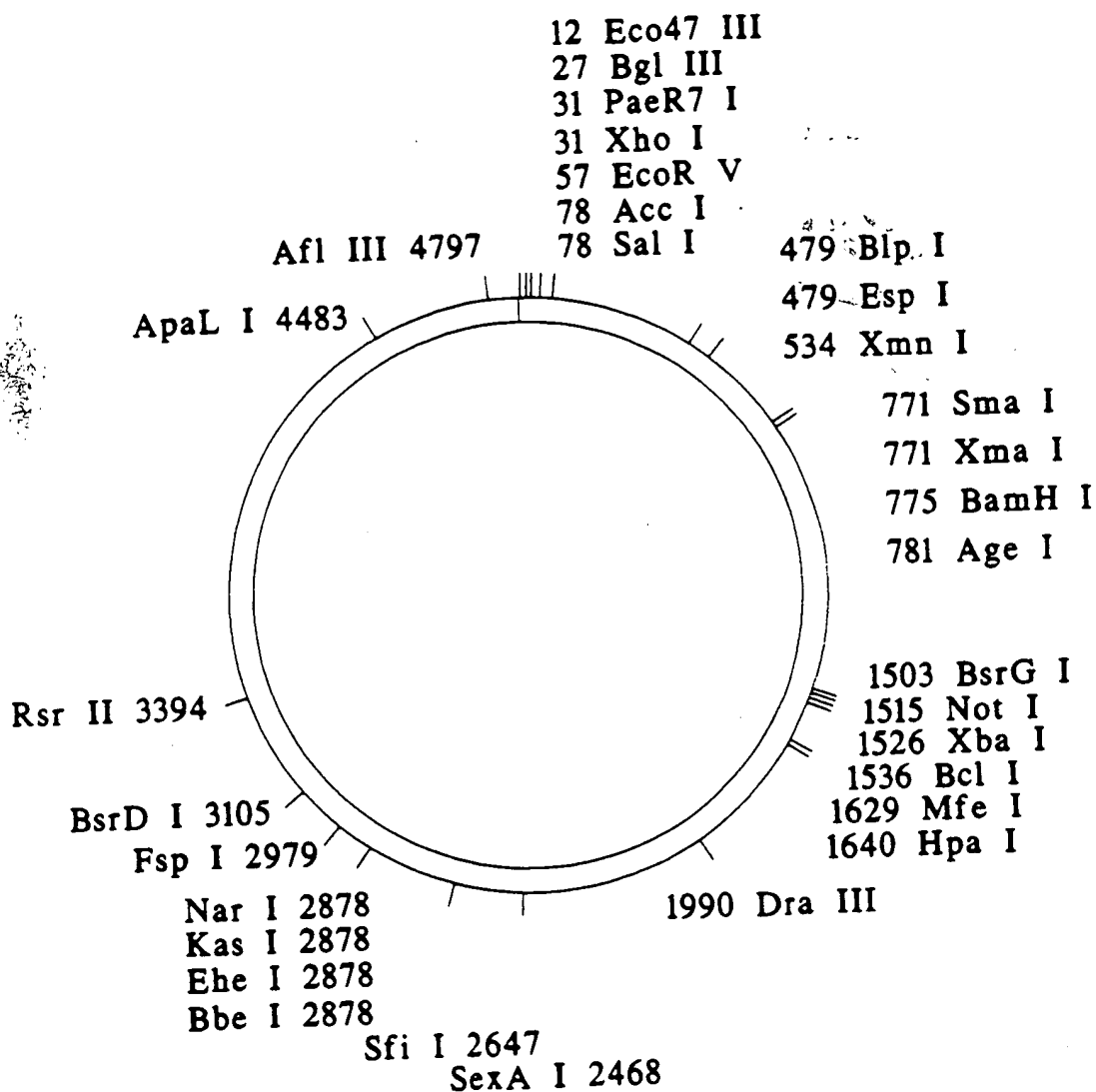
Inventors: Zhang et al.
Title: Mini-Ad Vector for Immunization
Application No.: 09/837079

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FIGURE 51





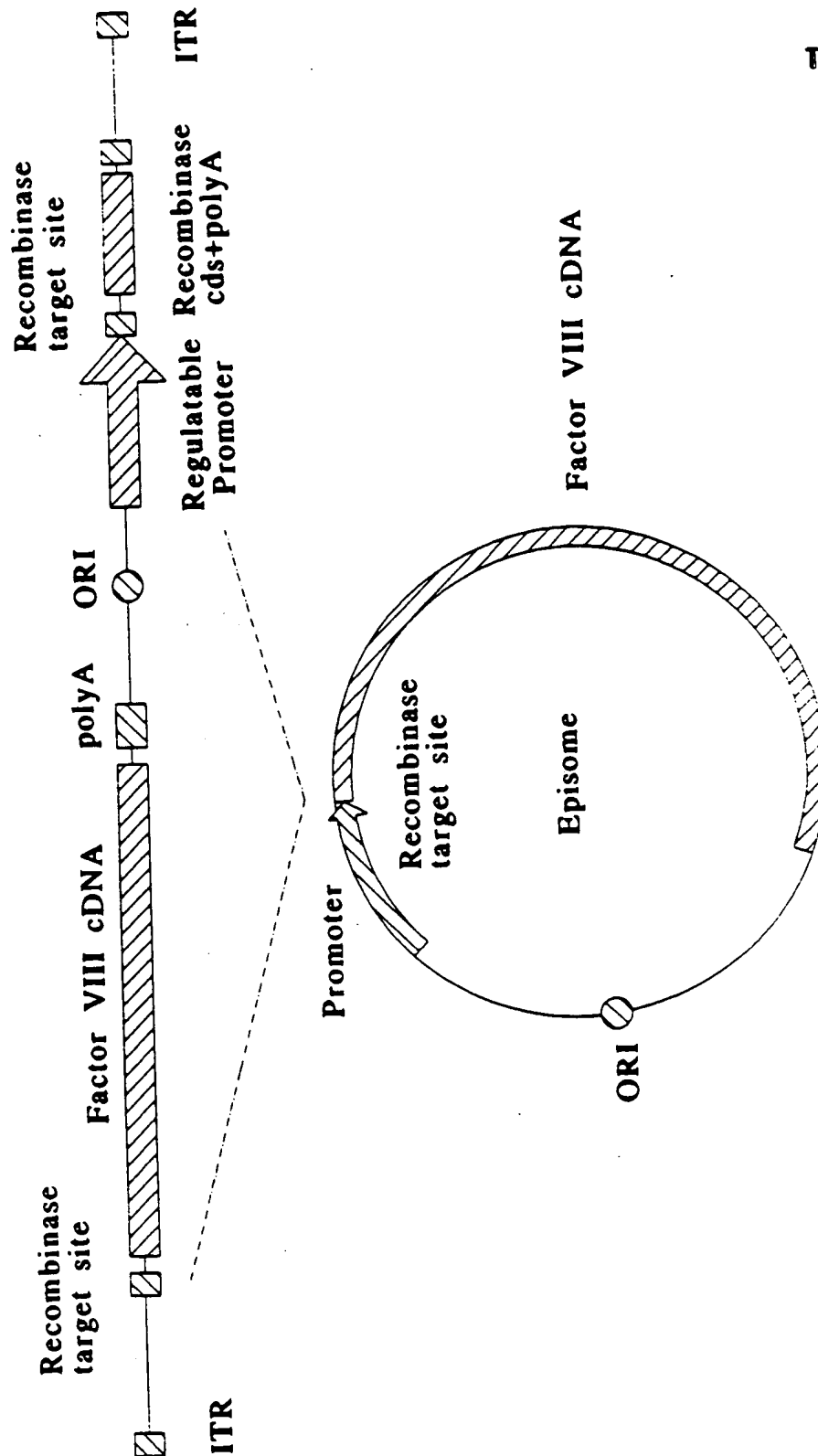
Inventors: Zhang et al.
Title: Mini-Ad Vector for Immunization
Application No.: 09/837079

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FIGURE 52





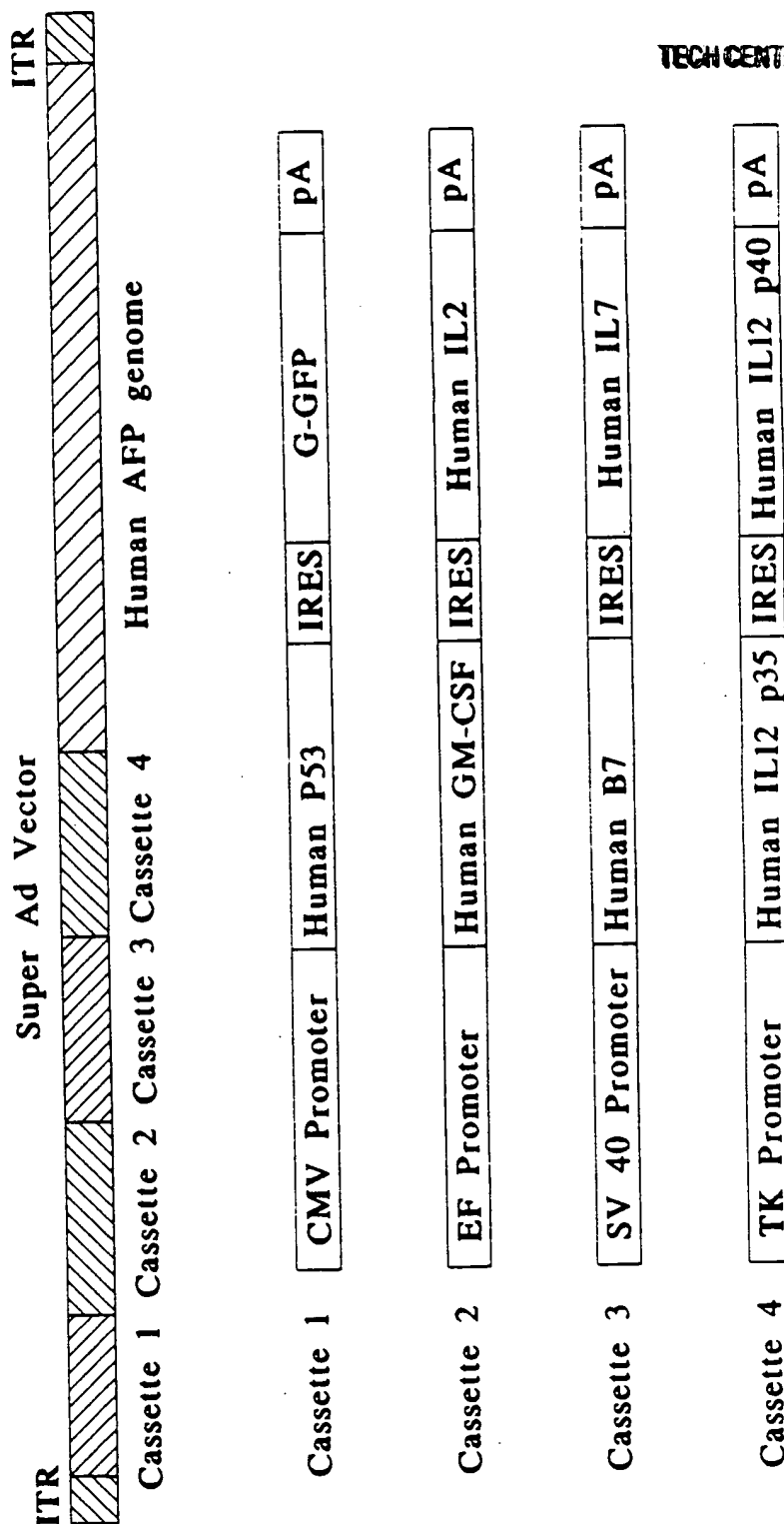
Inventors: Zhang et al.
 Title: Mini-Ad Vector for Immunization
 Application No.: 09/837079

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FIGURE 53





Inventors: Zhang et al.
Title: Mini-Ad Vector for Immunization
Application No.: 09/837079

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FIGURE 54

